[redacted]

#386

HEAO 1

ONE-DAY SCAN SUMMATIONS DATA

77-075A-01B

Table of Contents

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1. INTRODUCTION:

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and then collected into a single PDF file for each Data Set Catalog. The inventory information in these DSCs is current as of July 1, 2004. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

When printing, special settings may be required to make the text box appear on the printed output.

Version	Date	Person	Page	Description of Change
01				
02				

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM:

http://nssdc.gsfc.nasa.gov/nmc/

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

a. Associated Documents To find associated documents you will need to know the document ID number and then click here. http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/

b. Core Catalog Materials

HEAO 1

ONE-DAY SCAN SUMMATIONS DATA

77-075A-01B ASXR-00022

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY THERE WAS ONE 9-TRACK, 6250 BPI TAPE WRITTEN IN ASCII. THERE IS ONE RESTORED TAPE. THE C TAPE WAS THE TAPE THAT WAS RESTORED, THE D TAPE WAS STANDARD LABELED AND THE C TAPE WAS NOT. THE TAPE CONTAINS 2 IDENTICAL FILES. THE TAPE WAS CREATED ON A VAX 11/780 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBER AND THE TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES
DR03715	DS03715	D60070	1

REQ. AGENT	RAND #	ACQ. AGENT
DAD	V0228	HKH

HEAO 1

ONE-DAY SCAN SUMMATIONS DATA

77-075A-01B

This data set consists of one tape it is 6250 BPI, 9-track, ASCII, and contains 2 files. The tape was created on a VAX 11/78- computer. The first file is labeled the label is HCAT84. The 2 files are the same except for the label. The C tape is 1600 BPI, 9-track, ASCII and contains 1 file. The C tape is unlabeled. The tape is a copy of HEA01 A-1 X-ray source list which is in the catalog which was shipped with the tape this catalog is on microfich the B number is B-35767-000A. The D and C numbers follow below:

D#	C#
D-60070	C-24095

77-075A-017

DEPARTMENT OF THE NAVY
NAVAL RESEARCH LABORATORY
WASHINGTON, D.C. 20375

IN REPLY REFER TO:
4120-90:KSW:mah
17 July 1984

Dr. James I. Vette
National Space Science Data Center
Code 601
Goddard Space Flight Center
Greenbelt, Maryland 20771

Dear Dr. Vette:

Enclosed are a printed copy of the HEAO A-1 Catalog and a tape copy of the HEAO A-1 X-ray source list. Copies of either of these may be provided to users requesting them from the Data Center, although copies of the document may also be obtained directly from me at the address below. These copies should now replace previous versions which have hitherto been on file at NSSDC.

The tape contains two identical copies of Table 4 from the document. It was written under VMS Revision 3.5 on a VAX 11-780, using the system software. If there are questions concerning the tape they may be addressed either to myself (202-767-2506) or to Mr. Robert Hedler (202-767-2718).

Respectfully yours,

Kent S. Wood

Kent S. Wood
Naval Research Laboratory, Code 4121
4555 Overlook Avenue, S.W.
Washington, DC 20375

Enclosures

DEPARTMENT OF THE NAVY
NAVAL RESEARCH LABORATORY
WASHINGTON, D.C. 20375

IN REPLY REFER TO:

4120-141:DJY:mah
14 October 1983

Dr. J.I. Vette
National Space Science Data Center
Code 601
Goddard Space Flight Center
Greenbelt, Maryland 20771

Dear Dr. Vette:

Enclosed is the year's submission to the data center from the HEAO A-1 experiment. This consists of: 1) a preliminary manuscript of the HEAO A-1 catalog of X-ray sources, and 2) a computer tape containing one-day summations of A-1 scanning data.

Item 1 is the first-edition ("1H") HEAO-1 All Sky Catalog. It therefore supercedes all previous source lists and documentation delivered to the NSSDC. The catalog contains 842 source entries representing a full-sky survey obtained during the first 6-months of the HEAO-1 mission. The manuscript contains a comprehensive discussion of the A-1 instrument, the mission history, the data analysis procedures and source identification criteria, the 1H catalog, and for identified sources, a table of supplementary information and references to the published literature.

The manuscript has been submitted to the Astrophysical Journal for publication. Since it has not yet been accepted for publication, we have designated the manuscript preliminary. Upon acceptance for publication, we will forward a copy of the final printed text to the NSSDC. Also at that time, we will deliver a computer-readable tape containing the catalog listing. The tape will be accompanied by documentation describing its contents.

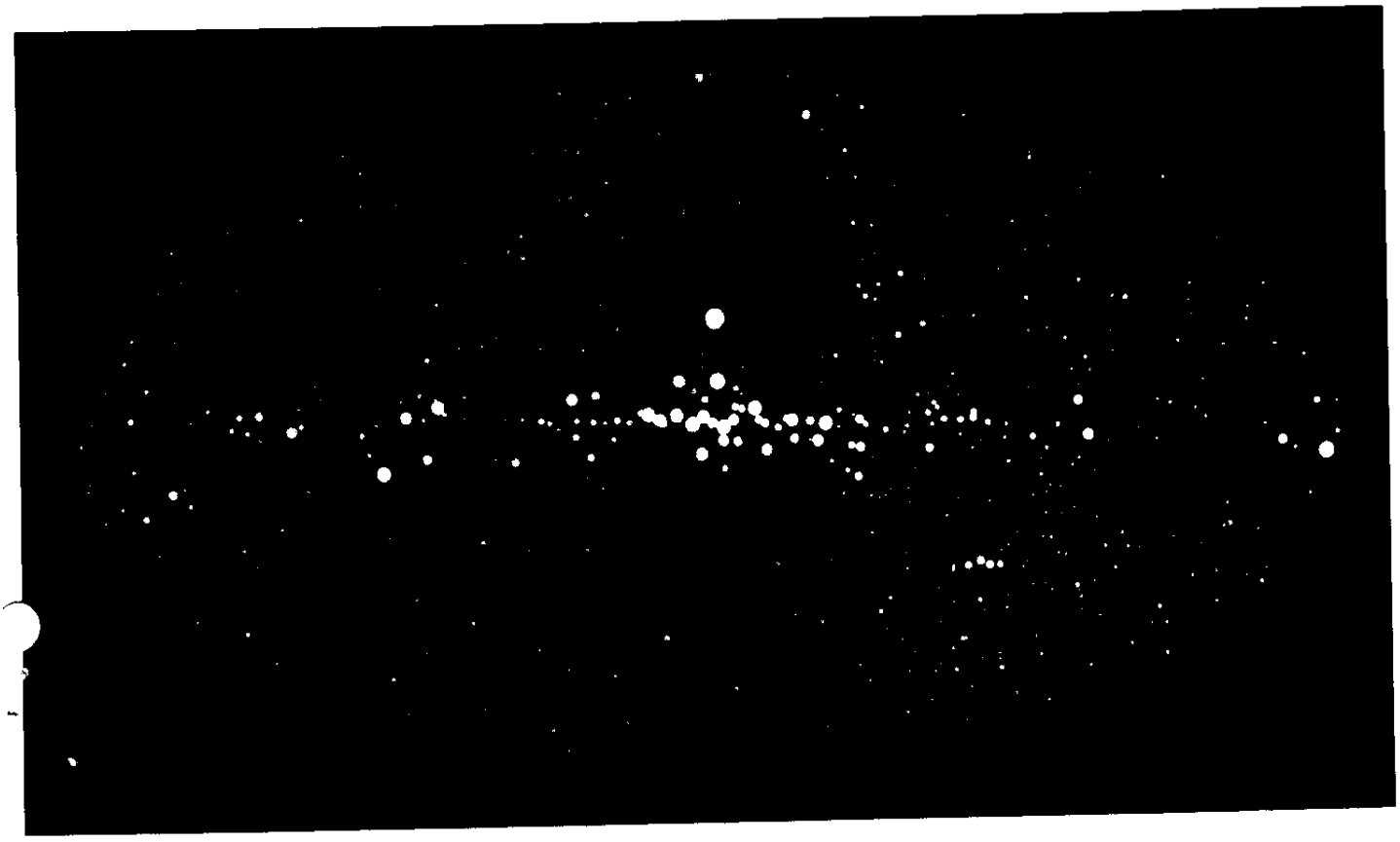
Item 2 is an additional HEAO A-1 database being delivered to the NSSDC. One-day scan summations of the scanning data from the 1 x 4 degree modules and 1 x 2 degree mapping modules were used extensively in the production of the HEAO catalog. We have included on the tape 253 days (8 months) of data. For the most part, the discussions in item 1 provide enough detailed information to support the use of this new database. However, we are preparing additional documentation which will include: 1) the tape format, and 2) algorithms for using the data (prototype tape I/O routines, HEAO A-1 specific coordinate transformations, collimator response functions, etc.). This additional documentation will be delivered to the NSSDC under separate cover.

Sincerely yours,

Kent S. Wood

Kent S. Wood
Head, X-ray Analysis Section
X-ray Astronomy Branch
Space Science Division
E.O. Hulburt Center for Space Research
Naval Research Laboratory

THE HEAO A-1 X-RAY SOURCE CATALOG



E.O. Hulburt Center
for
Space Research

Naval Research Laboratory
Washington, D.C.

THE HEAO A-1 X-RAY SOURCE CATALOG

by

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1984, Astrophys. J. Suppl. 56, No. 4, p. 507-649

A&A Abstracts 38.002.048

[1]Also Bendix Field Engineering Corp.

Abstract

We present a catalog of X-ray sources detected with the NRL Large Area Sky Survey Experiment on the HEAO-1 satellite. The catalog is derived from the first six months of data from HEAO-1, during which time one scan of the entire sky was completed. The text describes the instrument and data analysis techniques used for the survey.

Positions and intensities for 842 sources are catalogued, with a limiting flux of 250 nJy at 5 keV, or about 0.25 UFU. The catalog is more than 90% complete at a flux level equivalent to 1.5μJy at 5 keV, for a Crab-like spectrum.

This catalog, more so than earlier ones done in X-rays, approximates a representative, instantaneous image of the sky in X-ray wavelengths, in that all sources are observed within a single six-month interval and epochs of observation for individual entries can be specified to within a few days. The intensity shown for a source is a mean value over the observing interval rather than an extreme value.

The catalog has been cross-referenced with published literature. Identifications based on coincidence in position are proposed for some of the sources for which previous work has established no firm identification. About one-half of the sources remain unidentified.

I. INTRODUCTION

The NRL Large Area Sky Survey Experiment (LASS) on the HEAO-1 satellite, also referred to as the HEAO A-1 Experiment, had as its primary objective the generation of an all-sky catalog of the brightest X-ray sources in the energy range from 0.25 to 25 keV. The instrumentation consisted of an array of large aperture proportional counter modules with collimators of varying fields of view. This array had sufficient sensitivity to detect sources as faint as 0.25 μJy at 5 keV, assuming a Crab-like spectrum. (1.1 μJy at 5 keV = 1 UFU, for a Crab-like spectrum.) The modules with the finest collimators (1° × 1/2°) were not confusion-limited at the low end of this range.

Full sky coverage was achieved in the first six months of operation by continuously scanning great circles perpendicular to the Earth-Sun line. The present catalog is derived from those six months, and thus covers the full sky. The uniformity of the catalog depends upon the exposure, defined as collecting aperture multiplied by accumulated integration time, achieved in various sky regions. Instrumental sensitivity improves as exposure increases, until the confusion limit set by the instrumental field of view is reached. The ideal sky coverage for the instrumental design and satellite scanning geometry would be to accumulate a sufficient minimum exposure everywhere such that all sky regions would be uniformly limited by source confusion, and any remaining variations in exposure would not affect limiting sensitivity. Because some detector modules failed during the first six months, the flux limit for the present catalog in some sky regions is limited by exposure rather than confusion. The continued life of four of the original seven modules for an additional eleven months past their design goal meant that the ideal coverage was eventually achieved during the balance of the mission. Future addenda to the present catalog will be able to utilize the superior uniformity of the full mission sky exposure. The source list given here is at least 90% complete at a flux level equivalent to $\sim$1.5 μJy at 5 keV for a Crab-like spectrum judging from the number *vs.* flux curve and from known sources that do not appear in the list. The main causes for omission of sources brighter than 1.5 μJy are local imperfections in sky coverage or source confusion in the 1° × 4° FOV scan modules, which serve as the principal source-finders for the catalog. Thus a 5 μJy source might be missed if it were too close to another source

brighter than 50 μJy. A later publication will utilize the 1° × 1/2° modules to improve completeness in this respect. Allowing for these limitations, the all sky catalog presented in this paper is the most uniform and comprehensive produced to date from a single instrument.

Section II provides a technical description of the HEAO A-1 instrument. It is a more comprehensive description than any that has appeared in previous publications, and emphasizes aspects of the instrument which are important for understanding how the catalog was produced. Section III describes data analysis procedures used to extract source characteristics. Section IV introduces and describes the catalog tables. Section V is a brief discussion of source classes appearing in the catalog.

II. INSTRUMENT DESCRIPTION

Overview of the HEAO-1 Instrument: Principal Sub-Assemblies

The HEAO-1 instrument was a modular assembly of seven thin-window proportional counters sensitive from 0.25 to 25 keV. Additional principal sub-assemblies of the instrument were a central electronics module, two ultraviolet stellar aspect sensors and a central gas reservoir module.

The configuration of the A-1 instrument as mounted in the HEAO-1 space-craft is shown in Figure 1. Six of the seven X-ray sensor modules were placed on the $-Y$ side of the spacecraft, and the seventh on the $+Y$ side. The Z-axis of the spacecraft pointed toward the Sun; hence the view directions of the seven A-1 sensor modules were roughly perpendicular to the solar direction. The exact alignment of sensor view directions is specified in Table 1; the effective collecting areas of the modules are also given there.

Data were formatted within the central electronics module of the A-1 instrument prior to storage on the HEAO-1 spacecraft tape recorder for later transmission. Two commandable standard formats were used, one having timing resolution of 320 ms and the other having 5-ms resolution. Essentially full-sky coverage was obtained in both formats; data taken in either mode are combined in summations used to produce the catalog.

X-ray Sensor Modules

Each x-ray sensor module consisted of three main parts: a) the grid collimator assembly, with heat shield, b) the proportional counter, and c) electronics and gas system assemblies mounted on the back of the counter. A cross-sectional view of the counter is shown in figure 2. The proportional counter contained three layers of anode wires spaced 2 inches apart. Each layer of wires was read out independently. Over most of the energy range, the A-layer (front layer) served as the X-ray sensor,

and the B and C layers (middle and back layers, respectively) provided anticoincidence protection against charged particle events. For photon energies $\gtrsim$10 kev (high gain) or $\gtrsim$45 kev (low gain), added sensitivity was provided by the B-layer, with the other two layers in anticoincidence. Anticoincidence protection was also provided on the ends and the sides of the A-layer by additional background-counting anodes within the counter. (Protection against low to intermediate energy electrons was provided by magnets placed within the grid collimators.) The counter gas was a mixture of 22% methane and 78% xenon, at a nominal pressure of 2 psia. Incoming X-rays reached the active gas volume by passing through a window of 2.5 mm Mylar film; electrical conductivity of the inward surface was provided by a film of Nichrome, about 45 Å thick. The window was held in place by a stainless steel mesh which, in turn, was supported against the gas pressure within the counter by a rectangular cell stainless steel honeycomb strongback (window support structure). This honeycomb provided part of the X-ray collimation as shown in Table 2.

Collimators

Above the honeycomb strongback, each counter had an additional multi-grid collimator, which completed its field-of-view (FOV) as shown in Table 2. The grid collimators each consisted of a stack of etched molybdenum sheets interleaved with spacer frames. In order to prevent excessive heat loss or gain of the sensor modules while in orbit, a heat shield fabricated from 2 μm Kimfol polycarbonate film and coated on its inner surface with 800 Å of aluminum was placed in front of each collimator. Incoming X-rays passed through this heat shield as well as the Mylar film, and the net transmission of the two layers determined the response to soft X-rays.

Prior to launch, the angular response of the collimators (grid and honeycomb in series) was estimated for each detector type by performing Monte-Carlo simulations. From these simulations the net transmission at normal incidence and the relative angular response of each collimator assembly were determined. The simulations verified that the collimator response function could be factored into two components, $R_p(\theta)$ and $R_s(\phi)$, each a function of only one of the orthogonal angles measured from the

two planes of symmetry of the collimators. Factorization was valid at the energies of interest, $\lesssim 25$ keV. R_s and R_p refer to the response of the collimator in the scan direction and the direction perpendicular to the scan, respectively.

Figures 3, 4, and 5 give the responses R_s and R_p of the 1° × 4° collimators, 8° × 2° collimator and 1° × 1/2° collimators, respectively. The curves are least-squares fits of a cubic polynomial to the values determined by the Monte-Carlo simulations.

After launch, data obtained from scans through the Crab Nebula were used to determine the angular response of the four scan sensor modules taken together (sensor modules 1, 2, 3, and 4). These four sensor modules were coaligned (see Table 1). Most of their data were added together by the spacecraft electronics prior to transmission to ground. The resultant angular response is shown in Figure 6. This experimental response agrees, essentially, with that shown in Figure 3, although there are small differences arising from slight misalignments of the four scan sensor modules with respect to one another.

Detection Efficiency

The X-ray detection efficiency for a module is shown in Figure 7. The two portions of the Figure refer to two gain modes described below. Calculation of the efficiency takes into account the effects of absorption in the gas, window, and heat shield. The self-anticoincidence of some X-ray events (arising when fluorescence X-rays are recorded in an adjacent counter layer) is also taken into account. Detection efficiency is defined as the likelihood of a photon of given energy being reported by the instrument, and it specifically includes discriminator effects.

Module Electronics

Except for differences in UV aspect sensor circuitry (present only on sensor modules 2 and 3), all sensor modules were essentially identical in their electronics. Each proportional counter included a set of prime data wires (A), secondary data wires (B), and background wires (C). Each set of wires had its

own associated preamplifier, high voltage filter, and decoupling network. For anti-coincidence purposes, all B layer events were used for which energy deposition exceeded 2 keV (low gain) or 0.5 keV (high gain); B-layer events that were not anticoincidenced were accepted as valid X-ray data whenever B-layer energy deposition exceeded 50 keV (low gain) or 10 keV (high gain). The A-layer data discriminators could be commanded to any of 16 levels. Typically, the A-layer data discriminators were set to the lowest level, *i.e.*, to record events when A-layer energy deposition exceeded 0.5 keV (low gain) or 0.1 keV (high gain).

Integral to the back of each X-ray sensor module was a small auxiliary control proportional counter sharing counting gas with the main counter. It was excited by an internally mounted low-level radioactive source ($<0.5\ \mu$C of Fe^{55}). This small counter could serve, when so commanded, as an electronic component in a feedback loop, adjusting the operating voltage on the detector wires continuously so as to provide a constant gas gain despite density or composition changes in the counter gas.

Two commandable high voltage modes were used for the bulk of the data collected. One of these (designated the "AGCL" mode) utilized the gain control feedback loop so as to set the Fe^{55} 5.9 keV X-ray peak at 30% of full scale. The second mode ("AGCP") kept the voltage fixed at 1500 V, and was equivalent to a comparatively low gain with the 5.9 keV peak at about 6% of full scale. A third controlled mode (with gain higher than the AGCL mode) was available but was used only rarely, and never for data contributing to the catalog.

After processing by anticoincidence logic and discriminators, data pulses were passed to a 256 channel linear analog to digital converter (20 mV/channel, 5.1 volts full scale) which digitized the height of the pulses. These signals were sent to the central electronics module for further processing, described below.

In-flight calibrations were of two types, ramp calibration, which checked analog-to-digital conversion and amplifier linearity, and active calibration with Fe^{55} sources, which checked the system response to 5.9 keV photons.

Central Electronics and Telemetry

The central electronics (CE) module provided the electrical interfaces between the A-1 instrument and the spacecraft. This module received, processed, and formatted data from the sensor modules in preparation for storage by the spacecraft.

The X-ray pulses from each sensor module underwent pulse-height analysis (PHA) into 256 linear channels and then were presented to the CE. There the 256 channels were compressed to 16, using nonlinear sorters as shown by the energy threshold breakpoints in Table 3. One of the 16-channel sorters accumulated the data from sensor modules 1, 2, 3, and 4 taken together, these being the modules with co-aligned $1° \times 4°$ fields of view. In contrast, each of the sensor modules 5, 6, and 7 had its own 16-channel sorter. In addition, the telemetry format allowed for one further spectrum to be transmitted. This spectrum used a 40-channel nonlinear sorter analogous to the 16-channel sorters just described, and it could accept inputs from any of the modules, singly or in combination. Count accumulations from all sorters, as well as the total count from each sensor module, were processed by quasi-logarithmic scalers. The data, together with housekeeping information, were stored in an onboard tape recorder in one of two standard formats, and subsequently were transmitted to the ground.

Data used in preparation of the catalog consisted either of 320-ms count accumulations from the scan module 16-channel sorter or 640-ms count accumulations from the 40-channel sorter. The latter was used when the instrument was in the 5-ms telemetry format. PHA bins from the 40 channel sorter were, for these purposes, added together so as to be identical to bins from the 16-channel sorter, so that Table 3 applies to both cases. Further details on the instrument may be found in Friedman (1979). An additional capability for timing of X-ray events with resolution as fine as a few microseconds is described in Meekins *et al.* (1984); this feature is not relevant to the catalog.

Performance History and Cumulative Sky Exposure

During the mission, it was discovered that a reset problem existed in the module electronics which limited the determination of X-ray source spectra. When an X-ray event was recorded in layer A

or B, it was found that the pulse height reported was not necessarily the pulse height produced by absorption of the X-ray photon. The pulse amplitude analyzed was the larger of the current X-ray event or the pulse height (charge) held in the electronics circuitry. If the preceding event had been an X-ray event, proper reset occurred and the charge held was zero; but if the preceding event had been a coincidence event, reset failed to occur and the charge held was the charge from the coincidence event. The number of pulses reported was a true count of the number of X-ray events; but the pulse height distributions were contaminated by the charged particle spectrum to a degree dependent upon both the X-ray rate and particle event rate. Contamination was more serious for faint sources than for bright ones.

On 22 September 1977, repetitive, short-duration noise bursts were found in data from sensor module 2 resembling continuous discharge. On the following day, the same condition appeared in the data from sensor module 1. All sensor modules were immediately turned off and vented. On 26 September 1977, sensor modules 3, 4, and 5 were turned back on at the lowest possible operating voltage, *i.e.*, the AGCP gain mode. It was anticipated that this reduced high voltage would extend the life of the modules if high voltage breakdown had been the cause of the noise bursts. On 26 January 1978, sensor module 4 failed in a manner similar to that of the failures of sensor modules 1 and 2 above.

The malfunctions on 22 September 1977 and 26 September 1977 resulted in decreased sky exposure in the regions being scanned on those dates, an effect largely compensated by the coverage available on the dates immediately preceding and following. In addition, the detectors were shut down for most of the time on 10 to 11 February 1978 and again on 14 February 1978, in order to minimize risks to the hardware associated with intense solar activity that was then occurring. The correlation of these dates of reduced coverage with regions on the sky may be made by a procedure described in section III.

Because of the extension of the HEAO-1 mission beyond its planned six months, the X-ray sky survey eventually exceeded the original goals both in terms of total exposure (area × time) and in terms of the total time span for which each sky element was monitored. Sky exposure achieved in the first six months is mapped in Figure 13, in celestial coordinates.

III. DETERMINATION OF X-RAY SOURCE CHARACTERISTICS

Overview of the Catalog Processing

In order to determine source positions and intensities for the catalog, the detector readouts (in which count accumulations are given as a function of time) must first be combined with the aspect solution (provided by NASA and accurate to ± 0.01 degrees) in a data summation scheme. Data are summed in bins according to where they fall in the roll of the spacecraft. These summations then are fitted using nonlinear least squares fitting routines. HEAO-1 spacecraft motion was controlled to make this technique comparatively simple: the satellite spin axis was kept pointed toward the Sun and held at one position for 12 hours, after which it was advanced approximately 1/2 degree. This means that scan planes are all normal to the ecliptic plane (*i.e.*, follow meridians of constant ecliptic longitude), intersecting at the ecliptic poles. (See Figure 8 for this geometry.) It also means that, over most of the sky, a particular source appears at almost exactly the same phase angle in the scan on each day that it is seen. Lines of position determined on successive days are therefore nearly parallel. The method of reducing source error regions by means of intersecting lines of positions (used, for example, in the UHURU catalogs) is ineffective, and other techniques must be used to locate a source. Two such techniques are used, one based on the 1° × 4° modules alone and the other utilizing the 1° × 1/2° modules in conjunction with the 1° × 4° modules. The stages of source localization will now be described in detail.

Data Summations

The first phase of data reduction is a program that unpacks data and moves them to disk storage, simultaneously accumulating a time-averaged value for the direction of the Z-axis (spin axis) for the 12-hour interval. The coordinate system used for data summation is defined as having its pole in the direction of this same spin axis and its zero of longitude at the northward crossing of the ecliptic plane. This is designated the "scan" coordinate system, with coordinates scan longitude and scan latitude. The

angular distance along the scan (*i.e.*, the phase of the spacecraft roll) is scan longitude. The system is redefined for each advance of the spin axis. Deviations of actual spacecraft motion to either side of the nominal scan plane defined by the time-averaged Z-axis (in the scan latitude direction) are controlled so as not to exceed 1/2 degree.

The second phase is a program that reads data back from the disk and bins them according to scan longitude. Two separate arrays of bins are maintained: one for counts as a function of scan longitude, and the other for exposure (equal to detector collecting aperture multiplied by dwell time in the angular range covered by the bin), also as a function of scan longitude. Both quantities are binned to 0.1 degrees, *i.e.*, there are 3600 bins in the complete roll. Observed counts, which are read out every 320 ms (during which time the scan nominally advances 0.06 degrees), are fractionally rebinned according to the portion of time spent in each 0.1 degree scan longitude bin. Data are combined into 5 pulse height analysis bins, initially, but for source-fitting purposes, several of these PHA bins are summed together. The final product resulting from the second phase is a number of sets of scans suitable for summation, each set covering $\sim$12 hours, the interval over which the spacecraft spin axis is fixed. Scans are then added in register with one another to enhance signal to noise; the counts and exposure arrays are added separately. (The enhancement obtained in this way is illustrated in Figure 9, which displays fluxes, or counts divided by exposure). Scans are summed first over twelve hour intervals, and the 12-hour summations are further summed so as to achieve greater sensitivity. Sets of 1-day, 2-day, and 4-day summations are produced for the full sky (see Figure 10). Further summation is possible, but proves useful only at very high ecliptic latitudes. Fine collimator module data as well as those from the scan modules are summed in this manner.

Source Localization

These data summations are now suitable for source-fitting. First, one fits each of the 4-day summations with a "source search" routine that makes no presumptions as to where it will encounter significant excess flux. The first pass establishes a library of potential source locations in the scan longi-

tude direction using all available 4-day summations. Figure 11 shows an example. (The 4-day summations are redundant, *i.e.*, the first one contains the first four days, the second one contains days two through five, etc., but fits to them are used only for source discovery, not for error box determination.) A second pass using a similar routine is now made on the 1-day sums, which are independent of one another. On this pass, the routine has access to the library of potential locations established on the first pass; if no excess flux is found at a location, a fit is nevertheless forced and an upper limit is obtained. The redundant fitting of 4-day summations means that the library of potential locations is highly complete. A source may occasionally be missed on one day, but it is rare for it not to be in the library of potential locations.

The fitting routine allows two free parameters for each source, intensity and position. It is assumed that the count in the ith bin of the data summation can be represented as

$$C_i = B_i + I_j R_s(\rho_i - \phi_j) \tag{1}$$

where C_i is the count in the ith bin, I_j is the intensity of the jth source and ϕ_j is its position, and R_s is collimator response in the scan direction (see section II), and is a symmetrical function of the difference between ϕ_j and the bin position, ρ_i. B_i is a quadratic fit to background, valid locally over 20° of scan longitude.

A nonlinear least squares fit of the polynomial collimator response function (R_s) to the data provides source intensities and positions as error ellipses in the 2-dimensional parameter space. These may be conceptualized as those ellipses that best approximate the 1σ confidence contour in χ^2. Because errors are characterized in this way, it is possible to propagate them formally through further fitting in order to determine error boxes. This is done in two ways. One method uses only the fits to the scan module data while the other also employs fits to the fine collimator modules. In the routines just described, fits to fine collimator summations are forced at all scan module fit positions.

In the fitting scheme based on the scan modules alone, a second-stage least squares fit is used to establish the source position in the direction perpendicular to the scan, *i.e.*, scan latitude. The second fit takes as inputs only the fits obtained in the first stage; data summations are not presented directly to

the second stage fitting routine. (Hereafter, first stage fits are called "sightings.") The second stage fit routine first seeks regions where there are several sightings that may correspond to a single source. Since the collimator extends 8 degrees in scan latitude (full width zero response), and since the scan plane advances 1 degree each day, a source on the ecliptic plane remains visible for about 8 days, yielding up to 8 sightings. Sources at higher ecliptic latitudes remain visible for longer periods and yield more sightings.

The second stage fit determines three parameters characterizing the source, two for position and one for intensity. The position error box is a rectangle that contains the 95% confidence contour interval obtained when the error ellipsoid is projected onto the two-dimensional position subspace of the parameter space. The method assumes that the source maintains constant brightness over the interval of observation. An error box of this kind is referred to as a "constant intensity error box," and it is obtained by fitting the daily intensities to the collimator response function, R_p, in the direction perpendicular to the scan. This is done by a least-squares fit in which the source intensity and position are varied, intensity and scan longitude for each sighting are calculated, and χ^2 is minimized (see Figure 12).

The other second-stage fitting technique utilizes both the scan (1° × 4°) and fine mapping (1° × 1/2°) modules, and yields a type of error box, henceforth referred to as a "fine collimator error box," that is in many ways superior to the constant intensity error box. Each scan module detection of a source by the first stage fit routine establishes a line of position on the sky whose width (in the scan longitude direction) is defined by 95% confidence contours of the fit and whose length (in the scan latitude direction) is the 8° full width at zero response of the collimator. The simultaneous fits to the fine collimator module summations (forced in the first-stage fitting) are now used to truncate one of these lines of position so as to decrease its length. Since the fine collimator FOV lies entirely within the central portion of the larger FOV of the scan modules (see Tables 1 and 2), a detection in the former is made only when the source is near peak response in the latter. On adjacent days, the source may be detected in the scan modules but not in the fine collimator modules, since it lies outside their FOV.

The strongest positive detection in the fine collimator from a group of sightings can thus be used to constrain the source position to that part of the scan module line of position falling within the fine field of view. Allowance of an additional ± 1/2 degree in scan latitude is made, which is the tolerance in the spacecraft attitude control for perturbations of the spin axis. To summarize, the error region reported in the catalog for a fine collimator error box is the scan module 95% confidence line of position truncated at points ±1 degree from the center of the fine collimator FOV. The strongest detection in the fine collimator is used for this purpose. The intensity of the source reported in this type of error box is that detected by the scan modules on the day when the source is also seen in the fine collimator modules.

Fine collimator error boxes require no assumptions about source constancy and thus are used in preference to constant intensity boxes whenever source variability is suspected. The fine collimator module detection is a second, statistically independent, detection of the source. Use of it miminizes the risk that the position is affected by source confusion, since the fine collimator modules are confusion-free well below the catalog limit. Fine collimator error boxes are not available in every case because some sources are too faint to be seen with high statistical significance by the fine collimator modules or because fine mapping module coverage is incomplete near the date when the source transits in the FOV.

A third type of fit is used in the catalog for certain very bright sources with well-determined positions. These sources are bright enough that positions obtained for them are sensitive to small systematic effects, which can be thought of as misalignments of the modules with respect to the spacecraft coordinate system. The fit shown in the catalog in these cases is performed by fixing the source at its known position and varying only its intensity to minimize χ^2. Thus the source is shown in the catalog at its known position with an error box of 0.0 square degrees, and with an intensity which is its best-fit value during the time when it was in view.

The known positions of these same sources were, however, first used as standards with which to determine and correct for the collimator misalignments. The best fit misalignment corrections were

then retroactively applied to *all* fits used in the catalog, including those for the standard sources. The misalignments detected can be represented as a rotation about the spacecraft spin (Z) axis (which exhibits itself as a slight offset of the measured source position in the scan longitude direction in all detections) and another, smaller, rotation about the module look direction (−Y axis) (which manifests itself as an additional scan longitude offset that varies in a regular manner from day to day, depending on the scan latitude of the source). Any misalignment with respect to the remaining axis proved undetectable. The misalignments could be measured with any single strong source such as Sco X-1 or the Crab Nebula, but the use of a larger ensemble (~30) of standard sources permitted a search for long term variations in the corrections and other systematic effects. No such variations were identified in this search. Correction for misalignments is accomplished by modifying the scan longitude of the sighting when it is used by second stage fitting routines. The increase in the error box width in the scan longitude direction as source brightness decreases means that these corrections become of diminishing importance for faint sources, *i.e.*, statistical errors become more important than systematic ones.

In all of the second-stage fitting routines, provision is made for elimination of sightings which are judged to be affected by the confusion with nearby sources. In the great majority of cases there is no difficulty obtaining enough unconfused sightings to permit determination of the catalog entry, but it sometimes happens that two sources are so confused that one or both of them fail to appear. We estimate that, over most of the sky, this effect accounts for less than 5% incompleteness in the catalog down to a level of 6×10^{-3} cts cm^{-2} s^{-1}. More severe incompleteness is likely in the galactic bulge, but is difficult to quantify. Over most of the sky, greater incompleteness results from imperfections in sky exposure than from confusion. In future refinements to the catalog, greater use will be made of the data from the fine collimator modules and from the later parts of the mission in order to reduce both sources of incompleteness.

Because of the regular HEAO-1 scan pattern, there is a simple correspondence between the ecliptic longitude of the source and the date when it is in view, with transit occurring when the ecliptic longitude of the Sun differs from that of the source by 90°. Therefore, each catalog entry has an epoch

good to about ±4 days except at the highest ecliptic latitudes, and the full range of these epochs is six months, from 1977 August 15 to 1978 February 15. The epoch is calculable as just described from the data in Table 4. The display of the catalog (Figure 14) is thus a representative near-instantaneous sample of the X-ray sky. Since all intensities are best fits for their epochs rather than extreme values, some bright sources from our galaxy stand out somewhat less strongly than in the corresponding Fourth UHURU catalog display, (Figure 4 of Forman, *et al.*, 1978) where maximum values were used instead. A noteworthy instance of this effect is the entry for Hercules X-1, which made a transition from its "off" to its "on" state while in the field of view, although it was detectable in both states. It thus appears at a substantially lower flux in the HEAO A-1 catalog than in the UHURU catalog.

Acceptance Criteria

Acceptance criteria for the catalog have been adopted to ensure not only the statistical significance of the excess flux in a region but also to exclude as fully as possible the effects of source confusion and transient effects of either instrumental or celestial origin. Accordingly, the basic requirement is that a source must have at least three independent detections at 3σ significance in either the scan modules or the modules with fine collimators. Furthermore, it is required that the flux measurements in the fine collimator modules be consistent with the catalogued flux, *i.e.*, either a direct confirmation or a lack of coverage at the required date. For sources fainter than about 0.002 cts cm^{-2} s^{-1} only marginal detections are expected in the fine collimator modules and this condition does not apply. The requirement for three independent detections in one-day summations necessarily excludes transient sources whose duration is less than a day.

IV. THE CATALOG

Positions and Intensities

The positions and intensities for 842 sources, as derived by methods outlined in the preceding section, are given in Table 4. Table 4 further provides cross references to other X-ray catalogs and to non-X-ray counterparts. These have either been established or suggested by earlier work or are proposed here on the basis of coincidence with the HEAO A-1 position. The latter identifications have been found by searching other comprehensive catalogs, those shown in Table 5. For many of the entries in Table 4, substantial additional information concerning the source exists in the published literature. Table 6 complements Table 4 with brief summaries of current understanding in these cases. The remainder of this section is a detailed description of Tables 4 and 6.

In Table 4 the first column, "CATALOG ENTRY," gives the 1H catalog designation. The name is "1H" followed by right ascension in hours and minutes, then followed by declination in degrees and tenths of a degree. The second column, "POSITION RA, DEC" denotes the (1950.0) right ascension and declination for the center of the error box. The upper two entries are right ascension and declination in degrees and decimal fractions of a degree. The lower two are the same values expressed in hours, minutes, and seconds for right ascension and degrees, minutes, and seconds for declination. The third column, "GAL, ECL," gives the center of the error box in galactic longitude and latitude (upper pair) and ecliptic longitude and latitude (lower pair), for 1950.0. The next four columns, "ERROR BOX, RA, DEC," specify the four corners of the 95% confidence error box in right ascension and declination. The notation is the same as that used to specify the center (column 2). The eighth column, "AREA," is the solid angle enclosed by the error box in square degrees. The ninth column, "FLUX, ERROR," gives the apparent intensity of the source in counts cm^{-2} s^{-1} for 0.5 – 25 keV and its error as determined by the methods of Section III. The final columns, "IDENTIFICATION," give identification of the source with other catalogued objects.

An intensity of 10^{-3} ct cm^{-2} s^{-1} in column 9, which is the limiting flux in the catalog, corresponds to 3.3×10^{-12} erg cm^{-2} s^{-1} in 2-6 keV or 4.78×10^{-12} erg cm^{-2} s^{-1} in 2-10 keV, both for a Crab-like spectrum. This means that 10^{-3} ct cm^{-2} s^{-1} in HEAO A-1 is equivalent to 0.20 UFU or to 0.22 μJy at 5.2 keV, again for a Crab-like spectrum. These calibration factors have been established by fitting the Crab Nebula at various elevations in the collimator, correcting the measured fluxes for instrumental dead time and collimator response, and comparing the mean flux so derived with the known spectrum of the Crab Nebula folded through instrumental responses. The conversion has also been checked on a sample of bright clusters of galaxies comparing the flux shown in the Table in column 9 with that given in the Fourth UHURU catalog (Forman *et al.*, 1978).

The cross references and identifications shown in Table 4 have been selected according to certain criteria. For X-ray catalogs (such as the 4U, 2A, and 1M catalogs) where error boxes up to several square degrees are sometimes reported, the cross reference is given whenever the other error box intersects the HEAO A-1 error box. It will also be shown in certain cases where boxes do not strictly intersect but are sufficiently close to suggest a possible relationship. The criterion used here is that the separation between box centers must be less than the sum of the two largest dimensions. Few of the X-ray cross references are of this non-intersecting type. This procedure is conservative in that it reports the other catalog entry if it is remotely plausible. The designation "XRS" from the catalog of Amnuel *et al.* (1979), which summarizes much of the older X-ray literature, also appears in some cases.

Non-X-ray cross references are made on several bases. Whenever an identification has been firmly established, for example, by a precise position from a modulation collimator or from the EINSTEIN Observatory, it is always shown, but so are many additional tentative identifications. Some of these have been suggested by earlier work (in which case the earlier literature appears either in Table 5 or Table 6) and the remainder have been found by searching the non-X-ray catalogs in Table 5. Sources found in such searches are not shown invariably but rather are required to meet additional criteria appropriate to what is presently known concerning the class to which the candidate counterpart belongs. Thus, quasars fainter than 17th magnitude are not reported, nor are galaxies fainter than 10th

magnitude unless there is reason to suspect they either contain active galactic nuclei or are members of small groups or clusters that would have escaped cataloging in the cluster catalogs listed in Table 5. This procedure may tend to suppress identification of new source classes but it has the compensating virtue of minimizing the number of incorrect identifications proposed in the list. Objects shown as counterparts all belong to classes for which there is a demonstrated excess number of coincidences over chance expectation. Thus for example, Abell clusters in distance class 6 are reported because there is a highly significant excess number of such clusters falling inside 1H boxes.

Whenever "(R)" appears in Table 4, it signifies that additional references and comments appear in Table 6. The entries in Table 6 are intended primarily to provide a sketch of the basic background and current state of knowledge concerning the sources, to direct readers to further literature, and to clarify ambiguities. They are not intended as a comprehensive bibliography, and many references are omitted. Catalog references appearing in Table 4 are, in general, not repeated in Table 6. Effort has been made to include in Table 6 early detections, the identification history, references establishing key parameters such as distance, spectrum, and temporal variability characteristics, and the basic classification of a source. We have also made special effort to provide cross references to other HEAO-1 literature wherever possible, since other HEAO-1 observations are simultaneous with and complementary to those shown in the catalog.

V. DISCUSSION

No detailed statistical analysis of the catalog is presented here. We offer brief remarks on the makeup of the catalog by source classes and on comparison with other catalogs and surveys.

Source classification summaries for the catalog appear in Table 7. Totals shown there are made by assuming that all proposed identifications in the catalog are correct (although there must in reality be a number of coincidental misidentifications). No new source class appears in that Table, *i.e.*, all classes occurring there were represented by at least one instance in literature published prior to the launch of HEAO-1. The source classes with soft spectra (for example, supernova remnants and stars with coronal activity) are seen in greater numbers than in the UHURU and ARIEL V catalogs, and individual members of these classes often appear at higher flux levels than in those catalogs (e.g., the Puppis supernova remnant). Both of these effects are consequences of the response of the A-1 instrument to soft X-rays.

There remain 428 sources for which no classifications are proposed at this time. Of this total, roughly 80 are consistent with being confirmations of unidentified sources appearing in earlier catalogs and HEAO-1 literature. The unidentified sources are all fainter than 1.2×10^{-2} ct $cm^{-2}s^{-1}$. Of 66 sources in the range from 0.6 to 1.2×10^{-2} ct $cm^{-2}s^{-1}$, or roughly 1.5 to 3 UFU, 27 are seen in other catalogs. Below this limit, the coverage in other surveys becomes uneven and the fraction of confirmations drops, as would be expected.

One possible interpretation of the unidentified sources is that, when identified, they will yield primarily further instances of the source classes appearing in Table 7. This is supported by several considerations. First, the surveying of the optical sky for the counterpart classes is, in general, uneven. The most thoroughly surveyed class is probably clusters of galaxies. The catalog shows 114 members of this class at fluxes above 4×10^{-3} ct $cm^{-2}s^{-1}$; the number-flux relation observed in the catalog for clusters alone follows a power law of index of -1.5 down to about this flux, but the count increases much

more slowly as flux is further decreased. At a flux a factor of 2 lower, a deficiency of about 150 clusters is evident from comparison of the actual count with an extrapolation of the power law. 209 unidentified sources fall in this same flux range. Hence it is possible that many of the unidentified sources are clusters of galaxies. (However, it should also be noted that the EINSTEIN medium sensitivity survey (Maccacaro *et al.*, 1982) found that the ratio of clusters to active galaxies declines significantly at flux levels well below our threshold, so that extrapolation of the power law is not necessarily correct.) Similar conclusions could be drawn for the other classes, but even more strongly, since they are far less thoroughly surveyed than the clusters. For example, only optically-identified radio sources have been listed as possible counterparts, and these identifications are more complete for the northern than for the southern hemisphere. The medium level and deep surveys from the Einstein Observatory further support the idea that the remaining identifications will be primarily clusters, various kinds of active galactic nuclei, and stars, although the proportion may change at lower fluxes, and may vary with galactic latitude.

There is some possibility that extreme examples of long-term source variability remain to be demonstrated within the source classes already recognized. This conclusion derives in part from comparison with the Fourth UHURU and Second ARIEL V catalogs. Of 107 sources in the 2A catalog, we detect all but 8. Of these, 2 are known to be highly variable. There are 101 sources in the 4U catalog not detected by HEAO A-1. We have excluded from this total several known transients and highly variable objects, plus 2 sources seen in the A-1 data, but not appearing in the catalog, so that the total reflects the number whose absence cannot be accounted for in terms of previously established intrinsic variability. Of these 101 sources, 60 are at galactic latitudes greater than 15 degrees, and at least 37 carry no indication of source variability, source confusion ("C"), or marginal acceptance ("X") in the 4U catalog. If these sources had been present at the flux levels shown in the 4U catalog, they would have been readily detectable in A-1; moreover, in searching the 4U catalog for counterparts we have taken not only 4U error boxes that geometrically intersect our own but also those judged to be in sufficient proximity that the same source may be responsible for both detections. Thus, the only recourses for explaining the nondetections are that the unconfirmed sources were spurious or that they had decreased

in brightness at the epoch of HEAO-1. Decreases by factors of 3-10 are required to account for the discrepancy. Since the unconfirmed UHURU sources are by no means limited to those flagged as confused or marginal, source variability appears the more plausible explanation. If this is correct, then the present catalog may well contain further examples of this same type, since a corresponding number of sources should have brightened to levels above the HEAO A-1 threshold. It is possible that differences in the time interval over which the satellite scans a given region affect the number of detections of this kind appearing in the resulting catalog. The scanning pattern of HEAO-1 is favorable for detection of sources that have active periods lasting a few days. It is partly because of this that the known flare stars and RS CVn systems appearing in the catalog were able to be identified. These are issues that will be pursued in further work.

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TABLE 1

X-RAY SENSOR VIEW DIRECTIONS AND OPEN AREAS

Sensor Module	View Direction (relative to spacecraft)	Open Area (cm^2)
1,2,3,4	$-Y$	1650
5	$-Y+1/3°Z$	1350
6	$-Y-1/3°Z$	1350
7	$+Y$	1900

TABLE 2

COLLIMATION ANGLES

Sensor Module	Honeycomb Collimation Angles (1/2 Full Width)	Grid Collimation Angles (1/2 Full Width)	Resultant Collimation Angles (1/2 Full Width)
1,2,3,4	8° × 4°	1° × 45°	1° × 4°
5,6	8° × 4°	1° × 1/2°	1° × 1/2°
7	8° × 8°	45° × 2°	8° × 2°

NOTE: The first dimension is measured in the scan plane; the second, perpendicular to the scan plane.

TABLE 3

16-CHANNEL SORTER LOWER LEVEL BREAK-POINTS

Sorter Channel	Linear Channel	Low Gain[b] (keV)	High Gain[c] (keV)
0	0	0[a]	0[a]
1	2	0.79	0.15
2	3	1.18	0.23
3	4	1.57	0.31
4	6	2.36	0.46
5	8	3.14	0.61
6	12	4.71	0.92
7	16	6.29	1.22
8	24	9.43	1.84
9	32	12.57	2.45
10	48	18.86	3.67
11	64	25.14	4.90
12	96	37.72	7.35
13	128	50.29	9.80
14	192	75.43	14.69
15	255	100.18	19.52

[a]Lower limit depends upon commanded discriminator level.

[b]"AGCP" gain mode, 5.9 keV in 15th linear channel.

[c]"AGCL" gain mode, 5.9 keV in 77th linear channel.

Table 4

X-ray Source Positions and Intensities

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY	NON X-RAY
1H0003+200	.80 20.01 00 03 12 20 00 43	108.63 -41.31 8.97 17.98	359.78 19.71 23 59 07 19 42 31	1.72 20.55 00 06 51 20 32 45	1.83 20.31 00 07 19 20 18 33	359.90 19.47 23 59 35 19 28 23	.520	.0028 .0006	4U 0005+20 XRS00058+200	Mkn 335 (R)
1H0007+731	1.91 73.17 00 07 37 73 10 11	119.97 10.81 53.40 60.96	359.79 72.39 23 59 10 72 23 08	3.75 74.03 00 15 00 74 01 39	4.22 73.93 00 16 52 73 55 49	.24 72.30 00 00 57 72 17 49	.324	.0054 .0007	4U 0000+72 XRS00000+726	CTA 1 (R)
1H0008-745	2.21 -74.59 00 08 51 -74 35 22	306.60 -42.53 305.36 -62.69	.11 -75.28 00 00 27 -75 16 42	3.25 -73.76 00 13 01 -73 45 27	4.14 -73.88 00 16 32 -73 52 57	1.06 -75.42 00 04 14 -75 24 58	.479	.0049 .0010		STR0000-751?
1H0010-515	2.62 -51.53 00 10 29 -51 31 45	317.15 -64.80 335.33 -46.85	1.20 -52.02 00 04 47 -52 00 56	3.81 -50.86 00 15 15 -50 51 20	4.01 -51.03 00 16 03 -51 01 33	1.39 -52.19 00 05 34 -52 11 25	.424	.0036 .0007		STR0012-515? (R)
1H0011-239	2.90 -23.93 00 11 35 -23 55 46	53.30 -80.89 352.57 -22.99	1.68 -24.30 00 06 43 -24 17 52	3.97 -23.30 00 15 53 -23 18 12	4.11 -23.55 00 16 25 -23 33 06	1.81 -24.55 00 07 14 -24 32 53	.640	.0049 .0009		A14? (R)
1H0014-668	3.74 -66.81 00 14 58 -66 48 35	308.23 -50.24 318.95 -58.60	1.79 -67.47 00 07 09 -67 28 26	5.09 -65.96 00 20 20 -65 57 21	5.59 -66.12 00 22 22 -66 07 22	2.31 -67.65 00 09 13 -67 39 06	.532	.0019 .0004		
1H0014+111	3.73 11.17 00 14 54 11 10 15	109.77 -50.55 7.88 8.76	2.73 10.93 00 10 55 10 55 44	4.58 11.73 00 18 19 11 43 30	4.72 11.41 00 18 53 11 24 34	2.87 10.61 00 11 28 10 36 52	.682	.0062 .0015		III Zw 2 (R)
1H0016-257	4.16 -25.79 00 16 38 -25 47 30	43.70 -82.59 352.82 -25.16	2.92 -26.18 00 11 39 -26 10 43	5.24 -25.12 00 20 58 -25 07 21	5.40 -25.39 00 21 35 -25 23 40	3.07 -26.45 00 12 15 -26 27 11	.718	.0045 .0009		A15 (R)
1H0017+073	4.37 7.36 00 17 28 07 21 52	109.48 -54.41 6.93 5.02	3.39 7.08 00 13 33 07 04 57	5.24 7.88 00 20 57 07 52 45	5.34 7.64 00 21 22 07 38 39	3.49 6.85 00 13 58 06 50 52	.512	.0034 .0007		
1H0018+280	4.54 28.05 00 18 08 28 02 49	114.78 -34.06 15.93 23.80	3.43 27.78 00 13 42 27 46 32	5.47 28.64 00 21 53 28 38 38	5.65 28.31 00 22 36 28 18 33	3.61 27.44 00 14 26 27 26 37	.740	.0041 .0013		A21 (R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY	NON X-RAY
1H0018+833	4.65 83.31 00 18 35 83 18 46	122.06 20.77 73.97 65.15	7.14 83.84 00 28 33 83 50 25	3.89 82.72 00 15 33 82 43 23	2.52 82.77 00 10 04 82 46 27	5.55 83.90 00 22 12 83 54 03	.212	.0028 .0004		
1H0022+638	5.51 63.86 00 22 02 63 51 45	120.04 1.42 42.09 53.78	5.38 63.83 00 21 31 63 49 33	5.61 63.92 00 22 26 63 55 01	5.65 63.90 00 22 34 63 53 57	5.42 63.81 00 21 39 63 48 29	.003	.1001 .0014	4U 0022+63 Ceph XR-1 XRS00224+638	Tycho SNR (R)
1H0024-296	6.17 -29.67 00 24 41 -29 40 11	8.54 -84.20 352.66 -29.43	5.08 -30.01 00 20 18 -30 00 29	7.13 -29.10 00 28 30 -29 06 03	7.26 -29.32 00 29 02 -29 19 21	5.21 -30.23 00 20 49 -30 13 54	.500	.0029 .0006	4U 0026-29 XRS00268-291	A33? (R)
1H0025+588	6.35 58.88 00 25 23 58 52 35	119.95 -3.58 37.42 49.70	4.75 58.32 00 19 00 58 19 00	7.82 59.54 00 31 15 59 32 28	8.00 59.42 00 31 59 59 24 56	4.94 58.20 00 19 45 58 11 44	.312	.0071 .0012	A 0026+59 4U 0027+59 XRS00262+593	(R)
1H0031-197	7.78 -19.74 00 31 07 -19 44 14	93.94 -81.31 358.93 -21.13	6.75 -20.03 00 27 00 -20 01 36	8.67 -19.18 00 34 41 -19 10 55	8.81 -19.44 00 35 13 -19 26 32	6.88 -20.29 00 27 30 -20 17 18	.576	.0036 .0009		
1H0039+408	9.96 40.89 00 39 51 40 53 21	121.14 -21.68 27.07 33.26	8.78 40.45 00 35 06 40 27 06	11.12 41.39 00 44 27 41 23 22	11.17 41.31 00 44 39 41 18 53	8.83 40.38 00 35 19 40 22 40	.168	.0085 .0006	2A 0039+411 4U 0037+39	M31 (R)
1H0042-093	10.50 -9.34 00 42 00 -09 20 36	117.45 -71.87 5.91 -12.74	9.56 -9.70 00 38 13 -09 42 04	11.41 -8.90 00 45 38 -08 53 56	11.45 -8.98 00 45 47 -08 58 59	9.59 -9.79 00 38 22 -09 47 07	.184	.0097 .0007	2A 0039-096 4U 0037-10	A85 (R)
1H0043+294	10.82 29.41 00 43 17 29 24 34	121.51 -33.17 21.98 22.67	9.39 29.02 00 37 32 29 01 17	12.10 30.11 00 48 24 30 06 25	12.27 29.78 00 49 04 29 46 55	9.56 28.70 00 38 14 28 41 59	.926	.0038 .0010		
1H0048+250	12.24 25.02 00 48 58 25 01 28	122.99 -37.58 21.26 18.16	11.50 24.84 00 45 59 24 50 18	12.89 25.40 00 51 34 25 24 11	12.99 25.21 00 51 57 25 12 26	11.59 24.64 00 46 22 24 38 36	.296	.0079 .0014		PG 0052+251? (R)
1H0052-015	13.22 -1.60 00 52 51 -01 35 54	125.22 -64.18 11.53 -6.69	12.70 -1.73 00 50 48 -01 43 52	13.67 -1.32 00 54 40 -01 19 18	13.73 -1.47 00 54 55 -01 27 55	12.76 -1.87 00 51 02 -01 52 29	.164	.0083 .0008	2A 0054-015 4U 0050-01 XRS00549-015	A119 (R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H0053+604	13.25 60.49 00 53 00 60 29 34	123.49 -2.10 43.18 48.90	11.59 59.93 00 46 22 59 55 31	14.88 61.10 00 59 30 61 06 16	14.97 61.04 00 59 52 61 02 19	11.69 59.86 00 46 45 59 51 43	.160	.0173 .0012	2S 0053+604 1M 0053+60	4U 0054+60 XRS00537+604	Gamma Cas (R)
1H0054-729	13.53 -72.91 .00 54 07 -72 54 39	302.47 -44.48 312.01 -64.73	11.93 -73.80 00 47 42 -73 47 58	14.82 -71.99 00 59 16 -71 59 21	14.98 -72.01 00 59 55 -72 00 39	12.10 -73.82 00 48 23 -73 49 25	.108	.0144 .0006	2S 0050-727 CGS0050-727	SMC X-3 XRS00503-727	 (R)
1H0055+753	13.84 75.32 00 55 21 75 19 29	123.41 12.73 60.82 59.70	17.05 76.01 01 08 12 76 00 37	11.75 74.43 00 46 59 74 25 41	10.92 74.60 00 43 40 74 35 56	16.19 76.20 01 04 46 76 12 00	.582	.0030 .0006			
1H0056-150	14.14 -15.01 00 56 33 -15 00 19	131.44 -77.48 6.91 -19.35	13.14 -15.30 00 52 33 -15 17 50	15.03 -14.48 01 00 06 -14 28 47	15.13 -14.71 01 00 32 -14 42 33	13.24 -15.53 00 52 58 -15 31 39	.504	.0029 .0006			A131? (R)
1H0057-670	14.47 -67.06 00 57 53 -67 03 41	301.64 -50.32 323.71 -62.08	12.81 -67.74 00 51 13 -67 44 23	15.53 -66.23 01 02 06 -66 13 42	16.04 -66.37 01 04 10 -66 22 00	13.34 -67.89 00 53 21 -67 53 14	.462	.0036 .0007	4U 0052-68	XRS00520-687	STR0056-670
1H0101-439	15.35 -43.99 01 01 23 -43 59 19	295.26 -73.22 351.67 -45.47	13.78 -44.48 00 55 06 -44 28 52	16.63 -43.19 01 06 32 -43 11 19	16.89 -43.48 01 07 34 -43 28 30	14.03 -44.77 00 56 06 -44 46 25	.832	.0036 .0009			
1H0101-241	15.43 -24.19 01 01 43 -24 11 24	165.43 -85.70 3.88 -28.20	14.38 -24.51 00 57 31 -24 30 32	16.35 -23.64 01 05 24 -23 38 22	16.47 -23.86 01 05 53 -23 51 50	14.50 -24.73 00 57 59 -24 44 05	.500	.0021 .0004	2A 0102-242		A140 (R)
1H0101-221	15.36 -22.15 01 01 25 -22 08 53	151.92 -84.04 4.80 -26.33	14.33 -22.48 00 57 20 -22 29 01	16.28 -21.63 01 05 08 -21 37 41	16.38 -21.81 01 05 30 -21 48 23	14.42 -22.66 00 57 41 -22 39 47	.396	.0037 .0006	2A 0102-222	4U 0103-21	A133 (R)
1H0102-469	15.53 -46.91 01 02 06 -46 54 32	296.34 -70.32 349.43 -47.97	14.18 -47.40 00 56 42 -47 24 00	16.65 -46.21 01 06 35 -46 12 30	16.85 -46.40 01 07 24 -46 24 07	14.38 -47.60 00 57 31 -47 35 54	.496	.0050 .0008			STR0103-473?
1H0102-400	15.66 -40.07 01 02 37 -40 03 55	291.32 -77.02 354.83 -42.27	14.47 -40.50 00 57 51 -40 29 42	16.70 -39.46 01 06 47 -39 27 39	16.83 -39.62 01 07 19 -39 37 26	14.59 -40.66 00 58 22 -40 39 38	.384	.0038 .0006			

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0102+017	15.66 1.78 01 02 37 01 46 49	129.95 -60.64 15.11 -4.52	14.68 1.52 00 58 43 01 31 10	16.53 2.29 01 06 06 02 17 17	16.63 2.04 01 06 31 02 02 26	14.78 1.27 00 59 07 01 16 19	.536	.0032 .0007		A147? IC1613? (R)
1H0103-762	15.76 -76.29 01 03 02 -76 17 31	301.90 -41.08 304.85 -66.48	14.89 -76.69 00 59 32 -76 41 40	15.95 -75.84 01 03 48 -75 50 36	16.58 -75.89 01 06 20 -75 53 13	15.55 -76.74 01 02 12 -76 44 26	.142	.0103 .0011		
1H0106+324	16.71 32.42 01 06 51 32 25 28	127.35 -30.03 28.34 23.29	15.60 32.07 01 02 25 32 04 06	17.76 32.90 01 11 02 32 53 55	17.83 32.77 01 11 19 32 46 14	15.67 31.94 01 02 41 31 56 29	.280	.0055 .0007	2A 0122+338	3C31 A156? (R)
1H0107-113	16.87 -11.37 01 07 28 -11 22 12	139.04 -73.39 11.01 -17.10	15.88 -11.66 01 03 32 -11 39 20	17.75 -10.86 01 11 00 -10 51 33	17.85 -11.08 01 11 24 -11 04 51	15.98 -11.88 01 03 55 -11 52 41	.484	.0032 .0007		A146
1H0110-131	17.66 -13.16 01 10 39 -13 09 42	143.64 -74.89 11.01 -19.05	16.69 -13.49 01 06 45 -13 29 06	18.57 -12.68 01 14 16 -12 40 59	18.64 -12.84 01 14 32 -12 50 06	16.76 -13.64 01 07 01 -13 38 14	.332	.0044 .0006	4U 0134-11	
1H0112+141	18.19 14.10 01 12 44 14 06 01	131.64 -48.10 22.13 5.92	17.17 13.86 01 08 41 13 51 48	19.08 14.62 01 16 19 14 37 26	19.20 14.33 01 16 48 14 19 59	17.30 13.57 01 09 11 13 34 25	.628	.0024 .0006		A175?
1H0113-148	18.45 -14.88 01 13 47 -14 52 42	148.97 -76.22 11.01 -20.93	17.47 -15.21 01 09 52 -15 12 49	19.36 -14.41 01 17 26 -14 24 20	19.42 -14.54 01 17 41 -14 32 20	17.53 -15.35 01 10 06 -15 20 50	.292	.0061 .0007	H 0111-149	A159? (R)
1H0115-508	18.83 -50.80 01 15 18 -50 48 05	292.72 -66.07 348.54 -52.38	15.42 -52.17 01 01 41 -52 10 07	21.64 -49.05 01 26 33 -49 02 46	22.03 -49.34 01 28 06 -49 20 27	15.80 -52.48 01 03 11 -52 29 01	1.961	.0032 .0012		
1H0115+635	18.99 63.56 01 15 58 63 33 25	126.00 1.11 49.28 49.80	17.17 62.99 01 08 40 62 59 06	20.82 64.15 01 23 16 64 09 05	20.89 64.11 01 23 33 64 06 18	17.24 62.94 01 08 57 62 56 26	.112	.0312 .0018	4U 0115+63 CGS0115+634 XRS01152+634	 (R)
1H0120-308	20.12 -30.83 01 20 29 -30 49 41	241.38 -82.32 4.76 -35.99	19.03 -31.20 01 16 08 -31 12 10	21.10 -30.28 01 24 23 -30 16 48	21.20 -30.44 01 24 47 -30 26 39	19.13 -31.37 01 16 31 -31 22 07	.372	.0036 .0005		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0121-353	20.26 -35.39 01 21 03 -35 23 16	264.45 -79.49 2.14 -40.06	19.47 -35.64 01 17 52 -35 38 14	20.95 -34.98 01 23 47 -34 58 45	21.05 -35.13 01 24 12 -35 07 59	19.57 -35.79 01 18 16 -35 47 33	.242	.0072 .0010	2A 0120-353 4U 0115-36 XRS01209-353	NGC526A (R)
1H0122-590	20.50 -59.05 01 22 01 -59 02 54	295.03 -57.84 339.94 -59.15	19.41 -59.51 01 17 39 -59 30 27	21.32 -58.46 01 25 17 -58 27 51	21.57 -58.58 01 26 15 -58 34 48	19.66 -59.63 01 18 37 -59 37 38	.247	.0071 .0008	2A 0120-591	Fairall 9 (R)
1H0122-281	20.70 -28.14 01 22 46 -28 08 35	220.64 -82.49 6.79 -33.83	19.64 -28.52 01 18 33 -28 31 09	21.67 -27.62 01 26 39 -27 37 25	21.74 -27.76 01 26 58 -27 45 32	19.72 -28.66 01 18 51 -28 39 20	.304	.0048 .0006		
1H0123+075	20.81 7.56 01 23 15 07 33 32	137.57 -54.07 22.06 -1.12	19.87 7.22 01 19 27 07 12 56	21.74 7.96 01 26 57 07 57 35	21.76 7.90 01 27 03 07 54 01	19.89 7.16 01 19 33 07 09 22	.128	.0127 .0006		HD8357 (R)
1H0128-139	22.15 -13.98 01 28 35 -13 58 43	159.50 -73.71 14.92 -21.54	21.15 -14.27 01 24 37 -14 15 55	23.05 -13.47 01 32 11 -13 28 24	23.14 -13.69 01 32 34 -13 41 16	21.25 -14.48 01 24 59 -14 28 50	.468	.0035 .0007		A209 (R)
1H0129+303	22.49 30.40 01 29 57 30 23 54	133.35 -31.38 32.31 19.45	21.37 30.12 01 25 28 30 07 04	23.51 30.90 01 34 01 30 53 54	23.62 30.67 01 34 27 30 40 09	21.48 29.89 01 25 55 29 53 25	.496	.0032 .0006		M33 (R)
1H0130+473	22.73 47.34 01 30 54 47 20 14	130.32 -14.67 40.44 34.78	21.36 46.96 01 25 26 46 57 43	24.00 47.86 01 36 00 47 51 24	24.12 47.70 01 36 27 47 41 46	21.48 46.80 01 25 54 46 48 14	.356	.0061 .0009		
1H0132-086	23.02 -8.63 01 32 05 -08 37 45	153.50 -68.64 17.97 -16.95	22.00 -8.79 01 27 59 -08 47 27	23.86 -8.03 01 35 27 -08 01 32	24.05 -8.46 01 36 11 -08 27 53	22.18 -9.23 01 28 43 -09 13 51	.952	.0047 .0019	4U 0129-09?	A217
1H0132+607	23.11 60.74 01 32 27 60 44 13	128.29 -1.42 49.32 46.39	21.36 60.23 01 25 27 60 13 38	24.84 61.29 01 39 20 61 17 20	24.92 61.22 01 39 39 61 13 24	21.45 60.16 01 25 47 60 09 50	.152	.0188 .0012	4U 0142+61	 (R)
1H0135-346	23.77 -34.64 01 35 04 -34 38 24	252.13 -77.77 5.92 -40.80	22.62 -35.00 01 30 29 -35 00 01	24.75 -34.04 01 39 00 -34 02 22	24.91 -34.27 01 39 37 -34 16 10	22.77 -35.23 01 31 05 -35 13 58	.528	.0034 .0007		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0136-681	24.14 -68.11 01 36 33 -68 06 52	296.32 -48.67 326.01 -65.78	23.09 -68.60 01 32 22 -68 35 49	24.66 -67.53 01 38 38 -67 31 43	25.14 -67.63 01 40 34 -67 37 32	23.59 -68.70 01 34 22 -68 41 55	.253	.0043 .0006	H 0136-68	(R)
1H0137-403	24.34 -40.40 01 37 22 -40 23 50	268.56 -73.61 2.49 -46.01	23.11 -40.78 01 32 26 -40 46 43	25.35 -39.74 01 41 23 -39 44 13	25.57 -40.00 01 42 15 -40 00 10	23.32 -41.05 01 33 17 -41 02 55	.628	.0021 .0005		
1H0140+393	25.24 39.37 01 40 57 39 22 14	133.81 -22.14 38.43 26.79	23.98 39.10 01 35 56 39 05 56	26.36 39.91 01 45 25 39 54 24	26.51 39.63 01 46 02 39 37 43	24.14 38.82 01 36 34 38 49 27	.604	.0036 .0009		
1H0142-291	25.60 -29.13 01 42 25 -29 08 04	224.52 -78.12 10.96 -36.65	24.49 -29.42 01 37 57 -29 25 23	26.54 -28.53 01 46 08 -28 31 48	26.71 -28.84 01 46 51 -28 50 11	24.66 -29.73 01 38 39 -29 43 55	.688	.0021 .0006		
1H0143-239	25.87 -23.99 01 43 28 -23 59 18	200.50 -77.27 13.93 -32.11	24.82 -24.31 01 39 17 -24 18 35	26.81 -23.47 01 47 13 -23 27 54	26.91 -23.66 01 47 37 -23 39 36	24.92 -24.51 01 39 41 -24 30 22	.432	.0035 .0006		
1H0144+747	26.21 74.79 01 44 49 74 47 20	126.72 12.59 64.35 57.06	29.37 75.37 01 57 29 75 22 25	23.62 74.07 01 34 28 74 03 59	23.28 74.16 01 33 07 74 09 48	29.04 75.48 01 56 10 75 28 44	.268	.0038 .0004		
1H0145-832	26.39 -83.24 01 45 32 -83 14 34	301.01 -33.94 286.89 -68.73	27.71 -84.23 01 50 49 -84 14 02	24.60 -82.27 01 38 23 -82 16 00	25.40 -82.25 01 41 37 -82 14 56	28.77 -84.21 01 55 05 -84 12 36	.220	.0063 .0006		
1H0145-066	26.43 -6.68 01 45 43 -06 40 52	158.60 -65.29 22.00 -16.42	25.46 -6.96 01 41 49 -06 57 21	27.33 -6.21 01 49 18 -06 12 48	27.40 -6.40 01 49 37 -06 24 15	25.53 -7.15 01 42 08 -07 08 50	.412	.0037 .0007		
1H0145+326	26.44 32.70 01 45 44 32 41 57	136.56 -28.41 36.55 20.28	25.26 32.48 01 41 01 32 28 59	27.46 33.24 01 49 50 33 14 38	27.62 32.90 01 50 29 32 54 15	25.43 32.15 01 41 42 32 08 45	.732	.0051 .0015		A260
1H0150-535	27.64 -53.59 01 50 32 -53 35 20	283.75 -61.46 352.67 -57.98	26.66 -53.97 01 46 37 -53 58 04	28.39 -53.06 01 53 33 -53 03 51	28.60 -53.20 01 54 23 -53 12 08	26.86 -54.11 01 47 27 -54 06 32	.255	.0050 .0007		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0151+359	27.88 35.99 01 51 31 35 59 39	136.91 -24.92 39.09 22.87	27.17 35.85 01 48 40 35 50 52	28.52 36.30 01 54 03 36 17 45	28.60 36.14 01 54 22 36 08 11	27.25 35.69 01 49 00 35 41 22	.202	.0104 .0011	4U 0148+36 XRS01486+360	A262 B2 0149+35 (R)
1H0154-340	28.66 -34.09 01 54 39 -34 05 17	242.42 -74.41 11.02 -42.24	27.54 -34.47 01 50 08 -34 27 55	29.66 -33.52 01 58 39 -33 31 24	29.78 -33.70 01 59 07 -33 42 01	27.65 -34.64 01 50 36 -34 38 40	.404	.0035 .0006		
1H0155+740	28.85 74.05 01 55 23 74 03 15	127.60 12.05 64.49 56.04	31.00 74.39 02 04 00 74 23 24	27.48 73.50 01 49 55 73 29 53	26.79 73.70 01 47 08 73 41 52	30.31 74.60 02 01 15 74 36 03	.370	.0043 .0009		 (R)
1H0157+142	29.34 14.26 01 57 21 14 15 20	146.83 -45.17 32.28 2.12	28.33 14.03 01 53 18 14 01 35	30.26 14.72 02 01 03 14 43 15	30.36 14.48 02 01 25 14 28 49	28.42 13.79 01 53 41 13 47 12	.512	.0027 .0006		
1H0201-029	30.29 -2.97 02 01 10 -02 58 11	161.35 -60.10 27.12 -14.36	29.34 -3.27 01 57 20 -03 16 07	31.21 -2.56 02 04 50 -02 33 34	31.25 -2.67 02 05 00 -02 40 11	29.38 -3.38 01 57 30 -03 22 45	.236	.0058 .0006		
1H0203+513	30.75 51.40 02 03 01 51 23 58	134.58 -9.53 48.39 36.16	29.12 51.21 01 56 29 51 12 52	32.04 52.07 02 08 09 52 03 57	32.40 51.56 02 09 35 51 33 41	29.51 50.72 01 58 01 50 43 09	1.104	.0019 .0009	1E02063+5212	 (R)
1H0208-106	32.21 -10.70 02 08 50 -10 41 49	175.19 -64.88 26.06 -22.25	31.21 -10.93 02 04 49 -10 55 30	33.10 -10.20 02 12 24 -10 11 52	33.21 -10.47 02 12 50 -10 27 57	31.31 -11.19 02 05 15 -11 11 37	.576	.0028 .0007		
1H0209+774	32.46 77.42 02 09 50 77 25 01	127.48 15.52 69.65 58.09	36.43 77.90 02 25 44 77 54 15	29.56 76.68 01 58 15 76 41 03	28.79 76.88 01 55 10 76 52 32	35.70 78.11 02 22 47 78 06 53	.504	.0026 .0005		
1H0212-172	33.04 -17.22 02 12 09 -17 13 00	189.39 -68.28 24.21 -28.61	32.03 -17.51 02 08 08 -17 30 22	33.97 -16.75 02 15 52 -16 44 48	34.05 -16.92 02 16 11 -16 55 20	32.11 -17.68 02 08 25 -17 40 56	.380	.0041 .0006		
1H0215-007	33.91 -.76 02 15 38 -00 45 34	164.59 -56.22 31.40 -13.54	32.93 -.98 02 11 42 -00 58 36	34.81 -.30 02 19 14 -00 17 51	34.90 -.54 02 19 35 -00 32 31	33.02 -1.22 02 12 03 -01 13 16	.520	.0027 .0006		Mkn 590 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0217-639	34.46 -63.97 02 17 50 -63 58 13	287.81 -50.73 340.28 -67.40	32.96 -64.74 02 11 50 -64 44 36	35.35 -63.04 02 21 23 -63 02 28	35.88 -63.18 02 23 31 -63 10 58	33.51 -64.89 02 14 03 -64 53 38	.560	.0046 .0011		STR0214-643
1H0218+304	34.54 30.47 02 18 09 30 28 18	144.80 -28.34 42.48 15.71	33.40 30.25 02 13 35 30 15 15	35.58 30.94 02 22 19 30 56 09	35.69 30.68 02 22 44 30 40 45	33.51 30.00 02 14 01 29 59 57	.544	.0035 .0008	4U 0223+31? XRS02238+312	
1H0219-710	34.96 -71.09 02 19 49 -71 05 38	292.90 -44.49 322.19 -70.36	34.37 -71.68 02 17 29 -71 40 38	34.90 -70.48 02 19 35 -70 28 53	35.51 -70.51 02 22 02 -70 30 31	35.02 -71.71 02 20 05 -71 42 22	.249	.0047 .0008		
1H0219+625	34.79 62.51 02 19 08 62 30 26	133.20 1.70 57.48 45.16	36.83 62.87 02 27 19 62 51 56	33.00 61.94 02 12 00 61 56 31	32.79 62.12 02 11 09 62 07 11	36.64 63.05 02 26 32 63 02 56	.408	.0037 .0006		HB3 (R)
1H0226-448	36.56 -44.89 02 26 15 -44 53 38	261.49 -63.89 10.59 -54.63	35.28 -45.36 02 21 08 -45 21 53	37.61 -44.20 02 30 25 -44 11 58	37.82 -44.41 02 31 16 -44 24 33	35.49 -45.58 02 21 58 -45 34 44	.525	.0034 .0006		
1H0226-296	36.71 -29.70 02 26 49 -29 41 58	224.93 -68.43 21.85 -41.39	35.60 -30.00 02 22 23 -29 59 52	37.68 -29.15 02 30 42 -29 08 55	37.81 -29.39 02 31 15 -29 23 31	35.73 -30.24 02 22 54 -30 14 35	.540	.0031 .0007		
1H0227-094	37.00 -9.40 02 27 58 -09 24 04	180.09 -60.53 31.33 -22.71	36.01 -9.65 02 24 01 -09 38 58	37.91 -8.96 02 31 38 -08 57 39	37.98 -9.15 02 31 55 -09 09 01	36.08 -9.84 02 24 18 -09 50 22	.404	.0036 .0006		NGC985? (R)
1H0229-323	37.30 -32.37 02 29 12 -32 22 28	232.02 -67.77 20.90 -44.02	36.20 -32.74 02 24 47 -32 44 36	38.32 -31.86 02 33 17 -31 51 49	38.40 -32.00 02 33 35 -31 59 46	36.27 -32.88 02 25 05 -32 52 36	.296	.0046 .0006		
1H0230-356	37.75 -35.68 02 30 59 -35 40 30	240.28 -66.83 19.24 -47.13	36.30 -36.01 02 25 12 -36 00 43	39.00 -35.02 02 36 00 -35 00 55	39.18 -35.32 02 36 43 -35 19 16	36.47 -36.32 02 25 52 -36 19 17	.816	.0056 .0018		
1H0230+198	37.62 19.88 02 30 29 19 52 41	153.18 -36.72 41.63 4.79	36.57 19.70 02 26 16 19 42 04	38.59 20.33 02 34 20 20 20 03	38.69 20.05 02 34 44 20 02 56	36.67 19.42 02 26 40 19 25 02	.600	.0035 .0009		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H0235-525	38.94 -52.54 02 35 46 -52 32 13	271.99 -57.97 4.22 -61.68	37.60 -53.13 02 30 23 -53 07 33	40.09 -51.82 02 40 21 -51 49 23	40.25 -51.93 02 41 00 -51 56 01	37.76 -53.24 02 31 01 -53 14 23	.296	.0043 .0005	2A 0235-526	XRS02352-526	STR0237-526
1H0239-585	40.00 -58.59 02 39 58 -58 35 17	279.02 -53.35 355.38 -66.39	39.03 -59.02 02 36 07 -59 01 00	40.61 -58.01 02 42 26 -58 00 49	40.94 -58.15 02 43 44 -58 09 08	39.36 -59.16 02 37 26 -59 09 33	.288	.0036 .0007			
1H0239-215	39.86 -21.59 02 39 26 -21 35 35	206.06 -64.27 29.29 -35.08	38.83 -21.89 02 35 18 -21 53 13	40.82 -21.14 02 43 17 -21 08 28	40.89 -21.29 02 43 33 -21 17 34	38.89 -22.04 02 35 33 -22 02 22	.328	.0046 .0006			
1H0240+621	40.16 62.14 02 40 38 62 08 11	135.65 2.30 60.38 43.72	42.16 62.51 02 48 37 62 30 47	38.28 61.67 02 33 06 61 40 22	38.21 61.73 02 32 51 61 43 55	42.10 62.57 02 48 23 62 34 26	.132	.0104 .0006	2S 0241+622 XRS0241+622	4U 0241+61	(R)
1H0241+364	40.28 36.49 02 41 06 36 29 25	146.85 -20.88 49.32 19.80	39.02 36.37 02 36 03 36 21 56	41.38 37.01 02 45 30 37 00 44	41.54 36.60 02 46 10 36 36 06	39.20 35.96 02 36 46 35 57 30	.864	.0039 .0017			A376 (R)
1H0244+001	41.02 .19 02 44 05 00 11 14	172.83 -50.96 38.65 -14.96	40.02 .05 02 40 03 00 02 51	41.92 .67 02 47 39 00 40 08	42.03 .33 02 48 06 00 19 36	40.13 -.29 02 40 30 -00 17 40	.720	.0032 .0010			NGC1068 3C71 (R)
1H0246+275	41.71 27.53 02 46 50 27 31 41	152.67 -28.22 47.61 10.91	40.59 27.36 02 42 20 27 21 30	42.74 27.96 02 50 57 27 57 50	42.84 27.69 02 51 20 27 41 19	40.69 27.08 02 42 45 27 05 04	.576	.0039 .0009			A387? (R)
1H0247-370	41.95 -37.02 02 47 47 -37 01 05	241.56 -63.23 22.84 -49.88	40.77 -37.38 02 43 05 -37 22 48	42.99 -36.46 02 51 58 -36 27 45	43.12 -36.64 02 52 27 -36 38 40	40.89 -37.56 02 43 33 -37 33 50	.412	.0048 .0008			
1H0251+414	42.77 41.43 02 51 03 41 26 04	146.28 -15.60 53.00 23.86	41.47 41.18 02 45 53 41 11 04	44.00 41.82 02 56 00 41 49 26	44.07 41.67 02 56 16 41 40 11	41.54 41.03 02 46 10 41 01 54	.324	.0201 .0029	2A 0251+413 1M 0255+41	4U 0253+41 XRS02530+417	NGC1129 NGC1130 NGC1131 (R)
1H0253+058	43.26 5.80 02 53 03 05 48 08	169.75 -45.27 42.58 -10.29	42.28 5.58 02 49 07 05 34 56	44.20 6.17 02 56 48 06 10 16	44.25 6.02 02 56 59 06 01 13	42.33 5.43 02 49 18 05 25 53	.316	.0085 .0014	2A 0252+060	XRS02522+060	A400? 3C75? (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0253+130	43.42 13.02 02 53 41 13 01 00	163.83 -39.53 44.86 -3.43	42.72 12.86 02 50 52 12 51 25	44.10 13.26 02 56 24 13 15 52	44.13 13.17 02 56 31 13 10 28	42.75 12.77 02 50 59 12 46 01	.133	.0143 .0016	2A 0255+132 4U 0254+13 1M 0254+132 XRS02254+132	A399 A401 (R)
1H0254+221	43.52 22.16 02 54 04 22 09 46	157.51 -31.95 47.59 5.30	42.44 22.03 02 49 44 22 01 39	44.51 22.61 02 58 01 22 36 27	44.61 22.29 02 58 25 22 17 27	42.54 21.71 02 50 10 21 42 44	.660	.0032 .0009		
1H0256-617	44.08 -61.79 02 56 19 -61 47 08	280.35 -49.65 351.81 -69.93	42.08 -62.72 02 48 19 -62 43 07	45.23 -60.59 03 00 56 -60 35 30	45.96 -60.83 03 03 49 -60 49 31	42.83 -62.97 02 51 19 -62 58 08	1.102	.0036 .0012		STR0303-613
1H0258-126	44.54 -12.65 02 58 09 -12 39 04	193.44 -56.42 37.86 -28.24	42.69 -13.02 02 50 45 -13 01 27	46.23 -11.85 03 04 56 -11 50 59	46.38 -12.27 03 05 31 -12 15 54	42.83 -13.44 02 51 19 -13 26 30	1.608	.0052 .0016		A415 (R)
1H0258-015	44.65 -1.50 02 58 36 -01 30 03	178.72 -49.59 41.72 -17.67	43.65 -1.64 02 54 35 -01 38 18	45.56 -1.04 03 02 14 -01 02 40	45.66 -1.36 03 02 37 -01 21 47	43.75 -1.96 02 54 59 -01 57 26	.668	.0033 .0009		
1H0258+443	44.65 44.34 02 58 36 44 20 15	146.10 -12.39 55.46 26.18	46.65 44.70 03 06 37 44 42 00	42.77 43.75 02 51 04 43 45 10	42.67 43.94 02 50 41 43 56 26	46.57 44.89 03 06 16 44 53 27	.588	.0070 .0024	H 0252+440	
1H0300-482	45.14 -48.24 03 00 34 -48 14 14	261.22 -57.12 16.19 -60.71	43.74 -48.65 02 54 58 -48 39 07	46.20 -47.51 03 04 47 -47 30 29	46.52 -47.81 03 06 04 -47 48 22	44.06 -48.96 02 56 13 -48 57 24	.736	.0052 .0017		
1H0301-106	45.37 -10.63 03 01 28 -10 37 46	191.18 -54.66 39.46 -26.59	44.33 -10.73 02 57 19 -10 43 49	46.27 -10.11 03 05 03 -10 06 21	46.41 -10.53 03 05 37 -10 31 30	44.47 -11.15 02 57 53 -11 09 02	.884	.0025 .0009		
1H0307-722	46.88 -72.27 03 07 31 -72 16 19	289.67 -41.36 319.93 -74.22	46.61 -72.78 03 06 27 -72 46 53	46.59 -71.76 03 06 22 -71 45 49	47.14 -71.76 03 08 32 -71 45 42	47.19 -72.78 03 08 45 -72 46 47	.173	.0033 .0005		STR0308-723
1H0307-499	46.83 -49.92 03 07 18 -49 55 19	263.00 -55.36 16.00 -62.72	45.42 -50.38 03 01 40 -50 23 01	47.92 -49.20 03 11 40 -49 11 56	48.20 -49.44 03 12 48 -49 26 37	45.70 -50.63 03 02 48 -50 38 04	.616	.0048 .0012		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H0307-426	46.79 -42.65 03 07 08 -42 38 52	250.73 -58.18 23.81 -56.60	45.52 -43.04 03 02 05 -43 02 38	47.89 -42.06 03 11 32 -42 03 20	48.03 -42.24 03 12 07 -42 14 18	45.66 -43.23 03 02 39 -43 13 46	.424	.0038 .0007			
1H0310+576	47.53 57.66 03 10 06 57 39 53	140.99 .07 62.65 38.19	48.64 57.79 03 14 33 57 47 41	46.52 57.38 03 06 05 57 22 59	46.42 57.53 03 05 41 57 31 30	48.54 57.94 03 14 10 57 56 18	.183	.0057 .0006			
1H0311-348	47.85 -34.81 03 11 24 -34 48 33	235.66 -58.80 31.02 -49.99	46.68 -35.12 03 06 43 -35 06 54	48.90 -34.29 03 15 35 -34 17 08	49.01 -34.49 03 16 03 -34 29 31	46.80 -35.32 03 07 10 -35 19 25	.456	.0044 .0009			
1H0311-227	47.96 -22.72 03 11 50 -22 43 28	212.82 -57.43 37.55 -38.83	46.91 -22.99 03 07 39 -22 59 30	48.95 -22.31 03 15 47 -22 18 29	49.01 -22.45 03 16 01 -22 27 01	46.97 -23.13 03 07 52 -23 08 05	.304	.0076 .0009	2A 0311-227		EF Eri (R)
1H0315-445	48.92 -44.51 03 15 39 -44 30 45	253.15 -56.15 24.56 -58.99	48.38 -44.66 03 13 31 -44 39 37	49.36 -44.25 03 17 25 -44 15 02	49.45 -44.36 03 17 47 -44 21 44	48.47 -44.77 03 13 53 -44 46 21	.105	.0077 .0006	2A 0316-443	4U 0321-45	PKS0316-44 (R)
1H0316+413	49.13 41.33 03 16 30 41 19 32	150.58 -13.26 57.91 22.33	49.17 41.33 03 16 40 41 19 30	49.09 41.31 03 16 21 41 18 26	49.08 41.33 03 16 20 41 19 34	49.16 41.34 03 16 38 41 20 39	.001	.1727 .0013	2A 0316+413 1M 0316+41	4U 0316+41 XRS03165+413	Perseus Cluster A426 (R)
1H0323+342	50.99 34.30 03 23 57 34 17 53	155.98 -18.22 57.40 15.16	52.19 34.45 03 28 46 34 27 08	49.86 33.93 03 19 26 33 56 02	49.79 34.13 03 19 09 34 07 56	52.13 34.65 03 28 31 34 39 07	.412	.0043 .0007			
1H0324-636	51.07 -63.62 03 24 15 -63 37 21	279.36 -46.02 351.97 -73.62	49.54 -64.43 03 18 09 -64 25 30	51.92 -62.65 03 27 40 -62 39 06	52.51 -62.80 03 30 01 -62 48 17	50.15 -64.59 03 20 36 -64 35 17	.640	.0029 .0008			
1H0324-530	51.14 -53.00 03 24 33 -53 00 16	265.57 -51.57 16.54 -66.81	50.35 -53.27 03 21 24 -53 16 00	51.72 -52.59 03 26 51 -52 35 36	51.92 -52.74 03 27 39 -52 44 15	50.55 -53.41 03 22 12 -53 24 47	.200	.0060 .0008			STR0324-530
1H0324+674	51.18 67.44 03 24 43 67 26 29	137.14 9.21 69.45 46.75	53.15 67.54 03 32 35 67 32 13	49.43 67.10 03 17 43 67 05 43	49.23 67.32 03 16 55 67 19 20	52.98 67.77 03 31 55 67 46 06	.360	.0048 .0007			

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY	NON X-RAY
1H0326+787	51.57 78.73 03 26 16 78 43 53	130.50 18.49 77.11 57.02	56.38 79.10 03 45 30 79 06 13	47.70 78.11 03 10 48 78 06 23	47.09 78.29 03 08 21 78 17 14	55.86 79.30 03 43 26 79 18 03	.436	.0040 .0010		
1H0327+000	51.86 -.08 03 27 25 -00 04 45	184.00 -43.21 49.42 -18.31	50.87 -.27 03 23 29 -00 16 03	52.81 .25 03 31 13 00 15 00	52.84 .11 03 31 22 00 06 33	50.91 -.41 03 23 38 -00 24 30	.292	.0090 .0011	4U 0336+01	HR 1099 V711 Tau (R)
1H0331+257	52.75 25.72 03 31 00 25 43 18	162.87 -24.11 56.72 6.48	53.80 25.82 03 35 12 25 49 25	51.78 25.36 03 27 07 25 21 38	51.71 25.61 03 26 50 25 36 44	53.73 26.08 03 34 55 26 04 33	.488	.0036 .0007		
1H0332+317	53.16 31.71 03 32 37 31 42 31	159.15 -19.21 58.54 12.20	54.13 31.76 03 36 31 31 45 51	52.26 31.37 03 29 02 31 22 27	52.18 31.65 03 28 43 31 38 44	54.06 32.04 03 36 13 32 02 12	.459	.0044 .0009	H 0333+317	NRAO 140 (R)
1H0334+098	53.66 9.82 03 34 38 09 49 28	175.97 -35.28 53.74 -9.16	52.66 9.64 03 30 38 09 38 23	54.63 10.12 03 38 31 10 07 02	54.66 10.01 03 38 38 10 00 23	52.69 9.53 03 30 45 09 31 44	.228	.0089 .0008	2A 0335+096 4U 0344+11 XRS03353+096	(R)
1H0334+291	53.53 29.17 03 34 08 29 10 14	161.10 -20.99 58.24 9.66	54.67 29.32 03 38 41 29 19 09	52.45 28.84 03 29 48 28 50 23	52.40 29.01 03 29 36 29 00 44	54.63 29.49 03 38 30 29 29 32	.356	.0034 .0005		(R)
1H0335-357	53.89 -35.74 03 35 34 -35 44 08	236.93 -53.83 37.67 -52.82	53.50 -35.81 03 33 58 -35 48 21	54.24 -35.56 03 36 56 -35 33 18	54.29 -35.66 03 37 10 -35 39 49	53.55 -35.92 03 34 12 -35 54 54	.077	.0146 .0011	H 0333-35	NGC1399 (R)
1H0336-434	54.16 -43.42 03 36 39 -43 25 05	249.68 -52.77 32.10 -59.87	52.83 -43.73 03 31 20 -43 43 51	55.27 -42.81 03 41 04 -42 48 18	55.48 -43.09 03 41 55 -43 05 23	53.04 -44.02 03 32 08 -44 01 12	.648	.0031 .0008		
1H0337-152	54.38 -15.28 03 37 32 -15 16 33	204.62 -49.14 47.57 -33.62	53.36 -15.44 03 33 25 -15 26 29	55.35 -14.89 03 41 22 -14 53 06	55.41 -15.11 03 41 39 -15 06 21	53.42 -15.66 03 33 40 -15 39 45	.460	.0062 .0012		
1H0338-543	54.54 -54.32 03 38 09 -54 19 16	266.10 -49.19 18.41 -69.11	54.10 -54.44 03 36 25 -54 26 29	54.84 -54.10 03 39 21 -54 06 13	54.97 -54.20 03 39 52 -54 11 56	54.23 -54.54 03 36 56 -54 32 15	.067	.0102 .0008		(R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H0339-822	55.00 -82.21 03 39 59 -82 12 21	296.70 -32.98 284.90 -72.39	59.77 -83.00 03 59 03 -83 00 09	50.05 -81.49 03 20 10 -81 29 10	51.13 -81.37 03 24 31 -81 21 56	60.90 -82.86 04 03 35 -82 51 24	.404	.0037 .0006			
1H0340+392	55.18 39.29 03 40 43 39 17 35	155.64 -12.22 62.11 19.16	56.63 39.39 03 46 30 39 23 40	53.85 38.86 03 35 23 38 51 52	53.74 39.17 03 34 57 39 10 27	56.53 39.71 03 46 07 39 42 23	.710	.0031 .0007			(R)
1H0341-537	55.44 -53.79 03 41 44 -53 47 19	265.03 -48.91 20.50 -69.03	54.02 -54.35 03 36 05 -54 21 15	56.65 -53.09 03 46 35 -53 05 39	56.81 -53.21 03 47 14 -53 12 27	54.18 -54.47 03 36 43 -54 28 14	.296	.0052 .0006	2A 0343-536 1M 0328-524	4U 0339-54 XRS03432-536	STR0342-538 (R)
1H0342-392	55.67 -39.30 03 42 41 -39 17 50	242.72 -52.23 37.46 -56.65	54.42 -39.58 03 37 40 -39 34 44	56.78 -38.76 03 47 06 -38 45 51	56.92 -39.00 03 47 40 -39 00 07	54.56 -39.82 03 38 13 -39 49 10	.524	.0047 .0011			
1H0343+237	55.97 23.71 03 43 52 23 42 21	166.73 -23.73 59.10 3.84	56.66 23.76 03 46 38 23 45 24	55.32 23.47 03 41 17 23 28 23	55.28 23.65 03 41 06 23 39 07	56.62 23.94 03 46 27 23 56 10	.231	.0055 .0007			Pleiades (R)
1H0345-452	56.40 -45.24 03 45 35 -45 14 22	252.05 -50.83 33.26 -62.23	55.01 -45.54 03 40 03 -45 32 16	57.51 -44.60 03 50 02 -44 35 45	57.77 -44.92 03 51 04 -44 55 27	55.26 -45.87 03 41 02 -45 52 19	.752	.0021 .0006	4U 0321-45?		
1H0345+634	56.34 63.45 03 45 20 63 26 42	141.27 7.27 70.43 42.27	57.52 63.53 03 50 04 63 31 33	55.25 63.22 03 41 01 63 13 15	55.16 63.35 03 40 38 63 21 16	57.43 63.66 03 49 44 63 39 39	.148	.0047 .0005			
1H0347-413	56.93 -41.39 03 47 42 -41 23 22	245.92 -51.07 37.46 -58.95	55.64 -41.69 03 42 34 -41 41 24	58.06 -40.85 03 52 13 -40 50 58	58.20 -41.07 03 52 48 -41 04 29	55.78 -41.92 03 43 07 -41 55 05	.500	.0045 .0009			
1H0350-735	57.72 -73.58 03 50 53 -73 34 34	288.15 -38.13 312.93 -77.19	57.88 -73.97 03 51 31 -73 57 58	57.14 -73.22 03 48 33 -73 13 16	57.57 -73.19 03 50 17 -73 11 10	58.33 -73.93 03 53 20 -73 55 46	.101	.0036 .0003	4U 0357-74	XRS03576-743	STR0352-742?
1H0350+472	57.71 47.21 03 50 50 47 12 38	152.07 -4.89 66.10 26.41	58.63 47.25 03 54 32 47 15 02	56.87 46.95 03 47 27 46 57 03	56.78 47.16 03 47 08 47 09 49	58.56 47.46 03 54 14 47 27 52	.273	.0050 .0008	4U 0404+47	XRS04040+476	

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H0351+194	57.87 19.44 03 51 28 19 26 24	171.37 -25.62 59.90 -.71	59.44 19.58 03 57 46 19 34 29	56.38 18.94 03 45 31 18 56 27	56.30 19.29 03 45 11 19 17 30	59.37 19.93 03 57 27 19 55 38	1.066	.0027 .0007			
1H0352+308	58.06 30.90 03 52 14 30 53 43	163.08 -17.14 62.51 10.45	58.06 30.90 03 52 14 30 53 43	58.06 30.90 03 52 14 30 53 43	58.06 30.90 03 52 14 30 53 43	58.06 30.90 03 52 14 30 53 43	.000	.0448 .0011	1S 0352+308 4U 0352+30 CGS0352+309	2A 0352+309 1M 0352+30 XRS03522+308	X Per (R)
1H0354-310	58.65 -31.09 03 54 36 -31 05 27	229.76 -49.63 46.26 -49.89	57.49 -31.27 03 49 58 -31 16 24	59.70 -30.63 03 58 48 -30 37 55	59.81 -30.90 03 59 14 -30 53 53	57.60 -31.54 03 50 22 -31 32 29	.564	.0063 .0015			
1H0355-116	58.77 -11.63 03 55 05 -11 37 45	202.54 -43.72 53.58 -31.21	57.77 -11.81 03 51 04 -11 48 27	59.75 -11.33 03 58 59 -11 19 31	59.78 -11.45 03 59 07 -11 26 50	57.80 -11.93 03 51 11 -11 55 47	.252	.0075 .0008			
1H0358-669	59.61 -66.92 03 58 26 -66 55 28	280.46 -41.23 344.26 -78.11	59.12 -67.34 03 56 29 -67 20 09	59.60 -66.47 03 58 22 -66 28 17	60.08 -66.51 04 00 19 -66 30 41	59.63 -67.38 03 58 30 -67 22 38	.175	.0041 .0006			
1H0402+573	60.63 57.39 04 02 31 57 23 25	146.82 4.01 70.96 35.87	61.88 57.46 04 07 31 57 27 21	59.47 57.14 03 57 53 57 08 17	59.39 57.31 03 57 32 57 18 44	61.81 57.63 04 07 13 57 37 53	.241	.0039 .0005			
1H0403-570	60.95 -57.07 04 03 48 -57 04 22	267.86 -44.81 21.13 -73.56	59.38 -57.63 03 57 30 -57 37 34	62.06 -56.27 04 08 15 -56 15 55	62.48 -56.50 04 09 54 -56 30 02	59.79 -57.87 03 59 09 -57 52 12	.656	.0025 .0007			
1H0409-078	62.26 -7.88 04 09 02 -07 52 32	200.28 -38.92 58.41 -28.33	62.86 -7.82 04 11 26 -07 49 07	61.70 -8.09 04 06 48 -08 05 28	61.66 -7.93 04 06 38 -07 55 53	62.82 -7.66 04 11 17 -07 39 33	.194	.0063 .0008			40 Eri (R)
1H0409+102	62.38 10.26 04 09 32 10 15 51	182.30 -28.55 62.35 -10.57	62.69 10.28 04 10 45 10 16 54	62.09 10.17 04 08 22 10 10 04	62.08 10.25 04 08 18 10 14 46	62.68 10.36 04 10 42 10 21 37	.048	.0118 .0007	2A 0411+103 1M 0405+10	4U 0410+10 XRS04106+103	A478 (R)
1H0410+529	62.58 52.96 04 10 19 52 57 25	150.64 1.49 71.06 31.30	64.19 53.03 04 16 45 53 02 04	61.08 52.62 04 04 19 52 37 02	60.98 52.86 04 03 55 52 51 28	64.11 53.28 04 16 25 53 16 40	.477	.0027 .0005			

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0412-381	63.17 -38.18 04 12 40 -38 10 30	240.72 -46.42 48.26 -57.80	61.92 -38.41 04 07 41 -38 24 23	64.32 -37.73 04 17 15 -37 44 00	64.41 -37.93 04 17 37 -37 55 49	62.01 -38.61 04 08 02 -38 36 18	.420	.0044 .0007		
1H0413-116	63.44 -11.64 04 13 44 -11 38 11	205.28 -39.63 58.81 -32.25	64.49 -11.56 04 17 58 -11 33 23	62.44 -11.99 04 09 44 -11 59 12	62.38 -11.71 04 09 30 -11 42 45	64.43 -11.28 04 17 43 -11 16 57	.577	.0043 .0008		A483 (R)
1H0413+009	63.26 .96 04 13 01 00 57 38	191.61 -33.43 61.42 -19.87	63.91 .99 04 15 39 00 59 06	62.64 .74 04 10 32 00 44 22	62.60 .94 04 10 23 00 56 10	63.87 1.18 04 15 29 01 10 53	.260	.0070 .0011		A480 (R)
1H0414-551	63.70 -55.14 04 14 48 -55 08 32	264.63 -43.94 29.55 -73.08	62.15 -55.63 04 08 35 -55 37 56	64.93 -54.42 04 19 43 -54 25 28	65.21 -54.63 04 20 51 -54 37 59	62.43 -55.85 04 09 42 -55 50 49	.532	.0032 .0007	4U 0423-53? XRS04234-531	
1H0414+380	63.62 38.04 04 14 27 38 02 39	161.50 -8.80 68.59 16.54	64.06 38.06 04 16 15 38 03 28	63.19 37.93 04 12 45 37 55 50	63.17 38.03 04 12 39 38 01 43	64.04 38.16 04 16 09 38 09 23	.070	.0109 .0007	4U 0407+37 H 0412+378 XRS04074+379	3CR111.0 (R)
1H0419-577	64.97 -57.76 04 19 52 -57 45 45	267.83 -42.54 25.34 -75.54	63.97 -58.02 04 15 52 -58 01 06	65.67 -57.31 04 22 40 -57 18 26	65.95 -57.50 04 23 48 -57 29 55	64.25 -58.21 04 17 00 -58 12 49	.284	.0035 .0006		
1H0419+280	64.96 28.03 04 19 51 28 01 48	169.64 -14.98 67.92 6.48	66.09 28.15 04 24 21 28 08 55	63.86 27.81 04 15 25 27 48 35	63.84 27.90 04 15 21 27 54 08	66.07 28.24 04 24 17 28 14 29	.188	.0059 .0005		
1H0422-086	65.71 -8.63 04 22 51 -08 37 36	203.17 -36.27 62.07 -29.75	66.73 -8.53 04 26 54 -08 31 49	64.74 -8.91 04 18 57 -08 54 26	64.70 -8.72 04 18 48 -08 43 14	66.69 -8.34 04 26 45 -08 20 37	.380	.0040 .0008		
1H0422+601	65.50 60.14 04 22 00 60 08 26	146.74 7.74 74.82 37.98	67.62 59.93 04 30 29 59 55 51	63.74 59.52 04 14 58 59 31 03	63.35 60.32 04 13 24 60 18 56	67.33 60.74 04 29 18 60 44 21	1.644	.0007 .0003		
1H0423+096	65.76 9.64 04 23 03 09 38 41	185.17 -26.32 65.58 -11.77	66.73 9.63 04 26 55 09 37 30	64.85 9.33 04 19 24 09 19 35	64.80 9.66 04 19 10 09 39 43	66.68 9.96 04 26 42 09 57 39	.639	.0039 .0009		

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H0426+051	66.70 5.13 04 26 47 05 07 35	189.89 -28.23 65.76 -16.38	71.00 5.65 04 43 59 05 38 56	62.45 4.32 04 09 47 04 19 09	62.41 4.58 04 09 37 04 34 30	70.96 5.91 04 43 50 05 54 20	2.241	.0058 .0286	4U 0432+05	XRS04355+052	3C120 (R)
1H0427+177	66.92 17.74 04 27 39 17 44 27	179.00 -20.41 68.02 -3.96	68.36 17.80 04 33 26 17 48 01	65.52 17.38 04 22 05 17 22 30	65.47 17.67 04 21 53 17 40 16	68.32 18.10 04 33 15 18 05 49	.822	.0035 .0010			
1H0429-616	67.38 -61.66 04 29 30 -61 39 26	272.32 -40.24 15.85 -79.06	67.23 -61.73 04 28 54 -61 43 39	67.44 -61.56 04 29 44 -61 33 41	67.53 -61.59 04 30 06 -61 35 13	67.32 -61.75 04 29 16 -61 45 12	.010	.0144 .0004	2A 0430-615 1M 0426-635	4U 0427-61 XRS04309-615	STR0431-616 Sers 40/6 PKS0429-61 (R)
1H0430-133	67.73 -13.36 04 30 55 -13 21 46	209.54 -36.57 63.33 -34.77	68.02 -13.35 04 32 05 -13 20 56	67.46 -13.45 04 29 49 -13 27 17	67.44 -13.38 04 29 46 -13 22 34	68.01 -13.27 04 32 01 -13 16 14	.045	.0120 .0007	2A 0431-136 XRS04312-136	4U 0431-12	A496 (R)
1H0433-088	68.50 -8.88 04 33 58 -08 53 00	204.99 -33.95 65.15 -30.49	69.52 -8.89 04 38 05 -08 53 13	67.53 -9.23 04 30 06 -09 13 32	67.47 -8.88 04 29 52 -08 52 36	69.46 -8.54 04 37 50 -08 32 18	.708	.0020 .0006			
1H0435-531	68.86 -53.17 04 35 26 -53 10 14	261.15 -41.39 41.97 -73.10	67.86 -53.40 04 31 27 -53 23 58	69.65 -52.74 04 38 35 -52 44 33	69.85 -52.93 04 39 23 -52 56 01	68.06 -53.59 04 32 14 -53 35 37	.284	.0053 .0009			STR0428-540?
1H0435-274	68.79 -27.47 04 35 10 -27 28 12	226.99 -40.28 60.85 -48.79	69.65 -27.38 04 38 36 -27 22 51	67.99 -27.77 04 31 58 -27 46 00	67.93 -27.55 04 31 43 -27 33 12	69.59 -27.17 04 38 21 -27 10 07	.334	.0051 .0008			
1H0435-165	68.83 -16.51 04 35 20 -16 30 41	213.67 -36.84 63.92 -38.06	70.43 -16.42 04 41 43 -16 25 28	67.31 -16.98 04 29 14 -16 58 55	67.24 -16.59 04 28 56 -16 35 11	70.35 -16.03 04 41 24 -16 01 48	1.222	.0025 .0007			
1H0437+206	69.28 20.68 04 37 07 20 40 32	178.09 -16.83 70.67 -1.39	69.94 20.65 04 39 46 20 39 02	68.65 20.48 04 34 36 20 28 49	68.62 20.70 04 34 28 20 41 53	69.91 20.87 04 39 38 20 52 07	.268	.0070 .0012			
1H0441-207	70.38 -20.79 04 41 32 -20 47 38	219.33 -36.98 64.79 -42.54	71.52 -20.71 04 46 05 -20 42 49	69.30 -21.12 04 37 11 -21 07 20	69.24 -20.87 04 36 58 -20 52 00	71.47 -20.46 04 45 52 -20 27 32	.551	.0028 .0007	4U 0505-21	XRS05050-213	A514? PKS0446-206? (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0443+836	70.77 83.69 04 43 04 83 41 30	128.89 23.98 85.78 60.53	79.95 83.78 05 19 48 83 47 05	62.75 83.27 04 10 59 83 15 56	62.07 83.45 04 08 15 83 26 42	79.75 83.98 05 18 59 83 58 46	.392	.0023 .0004		
1H0444-338	71.03 -33.89 04 44 07 -33 53 06	235.70 -39.69 61.57 -55.47	72.23 -33.74 04 48 54 -33 44 16	69.88 -34.19 04 39 31 -34 11 40	69.83 -34.02 04 39 19 -34 01 15	72.18 -33.57 04 48 42 -33 33 54	.356	.0036 .0005		
1H0445-060	71.29 -6.08 04 45 10 -06 04 46	203.59 -30.19 68.79 -28.16	72.29 -6.04 04 49 10 -06 02 31	70.33 -6.35 04 41 18 -06 21 08	70.29 -6.12 04 41 09 -06 06 55	72.26 -5.81 04 49 01 -05 48 18	.475	.0040 .0008		NGC1681? (R)
1H0445+757	71.38 75.77 04 45 31 75 46 22	135.93 19.52 82.54 52.81	77.14 75.88 05 08 34 75 52 33	65.99 75.33 04 23 56 75 19 59	65.75 75.53 04 22 59 75 32 03	77.06 76.08 05 08 13 76 05 05	.593	.0049 .0068		
1H0446+450	71.64 45.01 04 46 34 45 00 40	160.48 .34 76.06 22.45	71.81 45.01 04 47 15 45 00 26	71.48 44.98 04 45 54 44 58 30	71.47 45.01 04 45 52 45 00 52	71.81 45.05 04 47 13 45 02 49	.010	.0241 .0003	4U 0446+44 1M 0446+44 XRS04466+449	3C129 Cluster (R)
1H0448-041	72.08 -4.10 04 48 19 -04 06 03	202.03 -28.55 69.98 -26.31	72.55 -4.10 04 50 13 -04 05 56	71.62 -4.22 04 46 28 -04 13 18	71.60 -4.10 04 46 25 -04 06 09	72.54 -3.98 04 50 09 -03 58 48	.113	.0073 .0007	H 0448-04	MCG-01-13-025 (R)
1H0451-747	72.89 -74.73 04 51 33 -74 43 58	286.94 -33.96 296.86 -80.13	74.17 -75.13 04 56 41 -75 08 04	71.25 -74.45 04 45 00 -74 26 42	71.68 -74.32 04 46 42 -74 19 27	74.59 -75.01 04 58 21 -75 00 29	.171	.0064 .0008	2A 0452-742 H 0452-742	
1H0451-560	72.87 -56.07 04 51 27 -56 04 08	264.46 -38.68 44.08 -76.77	71.12 -56.39 04 44 29 -56 23 28	74.19 -55.37 04 56 45 -55 22 19	74.58 -55.72 04 58 18 -55 43 22	71.49 -56.75 04 45 58 -56 45 05	.828	.0022 .0007	H 0449-55	 (R)
1H0453-100	73.40 -10.05 04 53 35 -10 03 12	208.78 -30.14 70.54 -32.38	74.04 -10.06 04 56 08 -10 03 19	72.79 -10.25 04 51 10 -10 14 51	72.76 -10.05 04 51 02 -10 03 00	74.01 -9.86 04 56 01 -09 51 28	.248	.0058 .0008	4U 0443-09	A521? (R)
1H0455-441	73.76 -44.11 04 55 01 -44 06 26	249.11 -38.64 60.54 -65.90	74.89 -44.00 04 59 34 -44 00 04	72.73 -44.48 04 50 55 -44 28 42	72.62 -44.20 04 50 28 -44 12 07	74.77 -43.73 04 59 05 -43 43 37	.467	.0034 .0007	2A 0456-449 XRS04566-449	

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0455+134	73.87 13.49 04 55 29 13 29 29	186.86 -17.63 74.13 -9.07	75.91 13.48 05 03 38 13 28 36	71.89 13.05 04 47 32 13 03 10	71.83 13.49 04 47 20 13 29 23	75.87 13.91 05 03 27 13 54 51	1.734	.0018 .0009		
1H0455+276	73.99 27.60 04 55 58 27 36 11	175.25 -9.16 75.80 4.94	74.73 27.57 04 58 54 27 34 15	73.29 27.43 04 53 08 27 25 51	73.26 27.63 04 53 02 27 37 53	74.70 27.77 04 58 49 27 46 19	.260	.0039 .0005		(R)
1H0455+518	73.81 51.90 04 55 14 51 53 57	156.05 5.81 78.65 29.09	74.07 51.89 04 56 17 51 53 19	73.56 51.85 04 54 14 51 50 58	73.55 51.91 04 54 11 51 54 33	74.06 51.95 04 56 15 51 56 53	.019	.0122 .0004	H 0452+51	(R)
1H0456+304	74.20 30.42 04 56 47 30 25 29	173.10 -7.29 76.29 7.73	75.34 30.42 05 01 21 30 25 17	73.09 30.20 04 52 21 30 12 15	73.06 30.42 04 52 13 30 25 07	75.31 30.64 05 01 15 30 38 10	.422	.0038 .0006		
1H0457+677	74.46 67.70 04 57 49 67 42 08	143.39 15.59 81.78 44.70	77.12 67.67 05 08 29 67 40 06	71.95 67.37 04 47 47 67 22 14	71.78 67.69 04 47 08 67 41 33	77.03 67.99 05 08 06 67 59 40	.656	.0017 .0005		
1H0458-367	74.57 -36.73 04 58 17 -36 43 43	239.87 -37.28 65.64 -58.88	75.26 -36.70 05 01 02 -36 42 00	73.95 -36.97 04 55 48 -36 58 00	73.89 -36.75 04 55 32 -36 45 11	75.19 -36.49 05 00 45 -36 29 14	.238	.0055 .0009	4U 0457-35 XRS04574-357	(R)
1H0459+230	74.75 23.04 04 59 00 23 02 15	179.37 -11.37 75.99 .33	75.73 23.02 05 02 54 23 01 04	73.81 22.83 04 55 13 22 49 57	73.78 23.05 04 55 06 23 03 04	75.70 23.24 05 02 48 23 14 12	.392	.0046 .0008		3C132?
1H0459+248	74.83 24.81 04 59 18 24 48 50	177.96 -10.25 76.25 2.09	75.68 24.78 05 02 43 24 46 48	74.00 24.62 04 55 58 24 37 27	73.97 24.84 04 55 52 24 50 35	75.66 25.00 05 02 38 24 59 56	.339	.0035 .0005		3C133? (R)
1H0501+592	75.32 59.23 05 01 17 59 13 34	150.69 10.93 80.75 36.25	77.29 59.21 05 09 09 59 12 51	73.43 58.97 04 53 42 58 57 55	73.35 59.21 04 53 24 59 12 30	77.25 59.46 05 08 58 59 27 32	.492	.0016 .0003		12 Cam (R)
1H0502-755	75.74 -75.55 05 02 56 -75 33 06	287.56 -32.99 290.61 -79.94	76.58 -75.78 05 06 18 -75 46 34	74.64 -75.42 04 58 32 -75 25 11	74.92 -75.32 04 59 41 -75 19 27	76.86 -75.68 05 07 25 -75 40 42	.072	.0069 .0005	H 0541-742?	STR0458-755?

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H0504-290	76.17 -29.00 05 04 41 -29 00 07	230.89 -34.37 70.37 -51.51	77.75 -28.95 05 10 59 -28 56 53	74.64 -29.35 04 58 34 -29 21 15	74.59 -29.04 04 58 22 -29 02 14	77.69 -28.63 05 10 45 -28 37 56	.877	.0026 .0006			
1H0505-386	76.37 -38.60 05 05 29 -38 36 08	242.45 -36.15 67.68 -61.00	77.67 -38.48 05 10 40 -38 28 35	75.16 -38.99 05 00 38 -38 59 08	75.08 -38.71 05 00 18 -38 42 49	77.57 -38.21 05 10 17 -38 12 23	.566	.0032 .0009			
1H0506-039	76.55 -3.94 05 06 11 -03 56 30	204.27 -24.57 74.94 -26.69	77.55 -3.92 05 10 12 -03 55 04	75.56 -4.13 05 02 14 -04 07 30	75.54 -3.96 05 02 10 -03 57 50	77.54 -3.76 05 10 08 -03 45 25	.324	.0035 .0005	4U 0506-03	XRS05065-034	
1H0507-459	76.94 -45.99 05 07 44 -45 59 17	251.62 -36.49 64.87 -68.30	77.67 -45.98 05 10 40 -45 58 47	76.26 -46.19 05 05 02 -46 11 16	76.20 -45.99 05 04 48 -45 59 30	77.61 -45.78 05 10 25 -45 47 03	.200	.0046 .0006	(1M)0510-44? 3U 0510-44	H 0517-456	Pic A (R)
1H0509+166	77.33 16.69 05 09 19 16 41 26	186.10 -13.07 77.80 -6.22	77.78 16.68 05 11 07 16 40 36	76.89 16.60 05 07 32 16 36 14	76.88 16.70 05 07 30 16 42 12	77.77 16.78 05 11 05 16 46 35	.086	.0082 .0006	4U 0517+17 XRS05175+175	H 0509+167	
1H0510+031	77.51 3.14 05 10 03 03 08 13	198.13 -20.23 76.74 -19.74	78.09 3.09 05 12 22 03 05 32	76.96 2.96 05 07 49 02 57 47	76.93 3.18 05 07 43 03 10 54	78.07 3.31 05 12 16 03 18 39	.251	.0065 .0010	4U 0509+01		
1H0512-401	78.12 -40.10 05 12 27 -40 06 04	244.51 -35.04 69.90 -62.72	78.12 -40.10 05 12 27 -40 06 04	78.12 -40.10 05 12 27 -40 06 04	78.12 -40.10 05 12 27 -40 06 04	78.12 -40.10 05 12 27 -40 06 04	.000	.0150 .0004	2S 0512-400 4U 0513-40 CGS0512-401	2A 0512-399 1M 0513-40 XRS05124-400	NGC1851 (R)
1H0513-518	78.30 -51.88 05 13 12 -51 52 50	258.95 -35.77 62.61 -74.21	79.56 -51.97 05 18 13 -51 57 56	77.10 -52.12 05 08 23 -52 07 16	77.05 -51.78 05 08 12 -51 46 56	79.49 -51.63 05 17 58 -51 37 40	.517	.0023 .0004			
1H0513+717	78.27 71.75 05 13 04 71 45 14	140.60 18.91 84.48 48.53	81.47 71.80 05 25 52 71 47 42	75.15 71.55 05 00 36 71 33 06	75.09 71.66 05 00 21 71 39 36	81.44 71.90 05 25 46 71 54 17	.220	.0041 .0004			
1H0515-488	78.84 -48.85 05 15 22 -48 50 51	255.23 -35.35 66.49 -71.38	79.85 -48.89 05 19 23 -48 53 11	77.87 -49.03 05 11 29 -49 01 58	77.84 -48.80 05 11 21 -48 47 59	79.81 -48.65 05 19 13 -48 39 15	.306	.0036 .0006			

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H0515-363	78.97 -36.36 05 15 52 -36 21 24	240.18 -33.74 72.52 -59.13	80.08 -36.38 05 20 20 -36 22 41	77.88 -36.56 05 11 31 -36 33 51	77.85 -36.33 05 11 25 -36 19 30	80.05 -36.14 05 20 11 -36 08 23	.427	.0030 .0005			PKS0521-365 (R)
1H0516+063	79.03 6.32 05 16 07 06 19 01	196.07 -17.29 78.61 -16.70	80.04 6.35 05 20 08 06 20 50	78.03 6.19 05 12 07 06 11 21	78.02 6.28 05 12 05 06 17 05	80.03 6.44 05 20 07 06 26 35	.192	.0044 .0003	4U 0519+06	XRS05198+065	A539? (R)
1H0520+121	80.07 12.12 05 20 16 12 06 55	191.52 -13.36 80.11 -10.99	81.39 12.03 05 25 32 12 01 59	78.78 11.85 05 15 06 11 51 08	78.75 12.19 05 15 00 12 11 29	81.36 12.37 05 25 27 12 22 20	.870	.0023 .0007			
1H0521-720	80.33 -72.01 05 21 18 -72 00 19	283.09 -32.69 297.67 -83.58	80.33 -72.01 05 21 18 -72 00 19	80.33 -72.01 05 21 18 -72 00 19	80.33 -72.01 05 21 18 -72 00 19	80.33 -72.01 05 21 18 -72 00 19	.000	.0579 .0004	2A 0521-720 1M 0521-72 CGS0521-720	4U 0520-72 LMC X-2 XRS05213-719	(R)
1H0521+373	80.30 37.33 05 21 11 37 19 42	170.53 .87 82.06 14.15	81.84 37.25 05 27 21 37 15 12	78.78 37.08 05 15 08 37 05 05	78.75 37.38 05 15 00 37 23 00	81.82 37.55 05 27 16 37 33 10	.732	.0025 .0006	4U 0515+38	XRS05150+384	
1H0522+283	80.70 28.31 05 22 49 28 18 51	178.16 -3.94 81.79 5.13	81.21 28.27 05 24 50 28 16 23	80.21 28.22 05 20 50 28 12 57	80.20 28.35 05 20 47 28 21 12	81.20 28.41 05 24 48 28 24 39	.122	.0056 .0005			
1H0523-118	80.99 -11.81 05 23 57 -11 48 37	214.15 -24.16 79.22 -34.92	81.66 -11.85 05 26 37 -11 51 07	80.33 -11.95 05 21 19 -11 56 49	80.32 -11.77 05 21 16 -11 46 02	81.64 -11.67 05 26 34 -11 40 21	.234	.0044 .0005			
1H0524-552	81.18 -55.20 05 24 43 -55 12 17	263.00 -34.06 65.34 -77.89	82.95 -55.09 05 31 47 -55 05 08	79.58 -55.67 05 18 19 -55 40 12	79.40 -55.30 05 17 36 -55 17 53	82.74 -54.72 05 30 57 -54 43 09	.772	.0022 .0007			STR0524-553
1H0525+340	81.30 34.00 05 25 11 34 00 09	173.73 -.33 82.66 10.78	82.51 33.99 05 30 01 33 59 16	80.10 33.87 05 20 24 33 51 55	80.09 34.01 05 20 21 34 00 18	82.50 34.13 05 29 59 34 07 40	.280	.0036 .0004			
1H0527-328	81.78 -32.81 05 27 07 -32 48 19	236.70 -30.68 77.62 -55.90	82.19 -32.82 05 28 45 -32 49 24	81.38 -32.89 05 25 31 -32 53 07	81.37 -32.79 05 25 29 -32 47 08	82.18 -32.72 05 28 42 -32 43 26	.068	.0067 .0004	2A 0526-328	XRS05269-328	TV Col (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H0529+427	82.42 42.72 05 29 39 42 43 24	166.94 5.22 84.10 19.43	84.31 42.62 05 37 14 42 36 55	80.55 42.46 05 22 12 42 27 41	80.52 42.80 05 22 03 42 48 01	84.29 42.96 05 37 10 42 57 18	.942	.0050 .0013			VRO 42.05.21
1H0530-054	82.66 -5.48 05 30 39 -05 28 30	208.80 -19.89 81.67 -28.71	83.67 -5.43 05 34 40 -05 25 56	81.66 -5.55 05 26 38 -05 32 53	81.66 -5.52 05 26 38 -05 30 58	83.67 -5.40 05 34 39 -05 24 01	.064	.0198 .0004	2A 0532-056 XRS05328-0566	4U 0531-05 6	M42 Orion Nebula (R)
1H0531-070	82.76 -7.08 05 31 03 -07 04 48	210.37 -20.53 81.67 -30.32	83.77 -7.06 05 35 05 -07 03 31	81.76 -7.18 05 27 02 -07 10 30	81.75 -7.10 05 27 01 -07 05 56	83.77 -6.98 05 35 03 -06 58 58	.152	.0070 .0004			Iota Ori region (R)
1H0531+219	82.88 21.98 05 31 30 21 58 54	184.56 -5.79 83.40 -1.30	82.88 21.98 05 31 30 21 58 54	82.88 21.98 05 31 30 21 58 54	82.88 21.98 05 31 30 21 58 54	82.88 21.98 05 31 30 21 58 54	.000	4.1120 .0464	4U 0531+21 Tau X-1	1M 0531+21 XRS05315+219	Crab Nebula Crab Pulsar (R)
1H0533+607	83.42 60.73 05 33 41 60 43 55	151.65 15.15 85.96 37.38	84.55 60.61 05 38 12 60 36 47	82.31 60.58 05 29 14 60 34 54	82.29 60.84 05 29 08 60 50 29	84.54 60.87 05 38 10 60 52 23	.286	.0061 .0011	4U 0541+60?		
1H0534-667	83.72 -66.70 05 34 52 -66 42 00	276.66 -32.29 353.76 -87.50	83.71 -67.70 05 34 50 -67 42 00	83.67 -65.70 05 34 40 -65 42 01	83.73 -65.70 05 34 54 -65 42 00	83.77 -67.70 05 35 05 -67 42 00	.048	.0751 .0007	2A 0532-664 LMC X-4	4U 0532-66 XRS05328-663	(R)
1H0536+263	84.06 26.32 05 36 14 26 18 57	181.47 -2.54 84.67 2.98	84.40 26.29 05 37 35 26 17 15	83.73 26.26 05 34 54 26 15 49	83.72 26.34 05 34 53 26 20 36	84.39 26.37 05 37 34 26 22 03	.048	.0145 .0009	1S 0535+26 4U 0538+26 XRS05357+262	A 0535+26 CGS0535+262	HDE245770 V725 Tau (R)
1H0538-641	84.71 -64.11 05 38 51 -64 06 47	273.58 -32.06 45.46 -86.71	84.71 -64.11 05 38 51 -64 06 47	84.71 -64.11 05 38 51 -64 06 47	84.71 -64.11 05 38 51 -64 06 47	84.71 -64.11 05 38 51 -64 06 47	.000	.0369 .0003	2A 0539-642 1M 0539-64 CGS0538-641	4U 0538-64 LMC X-3 XRS05389-641	(R)
1H0538-577	84.68 -57.78 05 38 42 -57 46 50	266.10 -32.16 71.80 -80.89	85.17 -57.77 05 40 41 -57 45 59	84.23 -57.89 05 36 54 -57 53 25	84.18 -57.79 05 36 43 -57 47 35	85.13 -57.67 05 40 30 -57 40 10	.052	.0044 .0003	H 0534-581		
1H0538+401	84.74 40.16 05 38 57 40 09 33	170.05 5.32 85.80 16.79	85.84 40.04 05 43 22 40 02 37	83.65 39.98 05 34 36 39 59 04	83.63 40.26 05 34 32 40 15 51	85.84 40.32 05 43 20 40 19 25	.470	.0048 .0011			

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0539-226	84.77 -22.64 05 39 04 -22 38 28	226.68 -25.04 83.05 -45.96	85.45 -22.67 05 41 47 -22 40 14	84.11 -22.81 05 36 27 -22 48 28	84.09 -22.61 05 36 21 -22 36 31	85.42 -22.47 05 41 41 -22 28 19	.248	.0040 .0006		
1H0539+590	84.97 59.01 05 39 52 59 00 37	153.59 14.99 86.81 35.62	86.23 58.89 05 44 54 58 53 40	83.71 58.87 05 34 51 58 52 25	83.70 59.11 05 34 47 59 06 49	86.23 59.13 05 44 55 59 08 04	.312	.0059 .0011		
1H0540-697	85.04 -69.76 05 40 09 -69 45 30	280.19 -31.51 297.65 -86.30	85.04 -69.76 05 40 09 -69 45 30	85.04 -69.76 05 40 09 -69 45 30	85.04 -69.76 05 40 09 -69 45 30	85.04 -69.76 05 40 09 -69 45 30	.000	.0946 .0003	2A 0540-698 4U 0540-69 1M 0540-69 LMC X-1 CGS0540-697	 (R)
1H0541-258	85.41 -25.88 05 41 38 -25 53 03	230.27 -25.61 83.67 -49.23	86.62 -25.95 05 46 28 -25 56 58	84.22 -26.07 05 36 52 -26 04 07	84.20 -25.81 05 36 48 -25 48 32	86.60 -25.69 05 46 23 -25 41 24	.562	.0035 .0008		A548 (R)
1H0542-407	85.75 -40.74 05 42 58 -40 44 33	246.48 -29.44 82.61 -64.08	86.37 -40.78 05 45 29 -40 46 32	85.13 -40.85 05 40 31 -40 50 45	85.12 -40.71 05 40 28 -40 42 22	86.36 -40.64 05 45 25 -40 38 09	.132	.0034 .0003		
1H0543-289	85.92 -28.93 05 43 40 -28 56 04	233.64 -26.18 84.15 -52.30	86.54 -29.01 05 46 09 -29 00 18	85.30 -29.04 05 41 12 -29 02 27	85.30 -28.86 05 41 11 -28 51 39	86.53 -28.83 05 46 07 -28 49 30	.194	.0039 .0005		
1H0543-205	85.83 -20.57 05 43 19 -20 34 19	224.96 -23.37 84.57 -43.94	86.52 -20.63 05 46 03 -20 37 44	85.15 -20.67 05 40 35 -20 40 20	85.14 -20.51 05 40 34 -20 30 44	86.51 -20.47 05 46 02 -20 28 08	.205	.0041 .0005		
1H0546-439	86.67 -43.98 05 46 41 -43 58 44	250.27 -29.41 83.77 -67.35	87.79 -44.00 05 51 10 -44 00 16	85.57 -44.14 05 42 17 -44 08 31	85.55 -43.94 05 42 12 -43 56 33	87.77 -43.81 05 51 03 -43 48 20	.320	.0028 .0004		PKS0537-44? (R)
1H0547-601	86.92 -60.17 05 47 41 -60 10 03	268.94 -31.06 76.43 -83.47	87.69 -60.28 05 50 46 -60 17 02	86.18 -60.31 05 44 42 -60 18 45	86.16 -60.05 05 44 38 -60 02 47	87.67 -60.02 05 50 39 -60 01 06	.200	.0018 .0004		
1H0547-575	86.89 -57.55 05 47 32 -57 32 47	265.88 -30.97 79.41 -80.88	88.75 -57.47 05 54 59 -57 27 57	85.05 -57.74 05 40 11 -57 44 19	85.02 -57.60 05 40 04 -57 35 58	88.70 -57.33 05 54 49 -57 19 39	.280	.0037 .0004	4U 0559-57 XRS05598-571	

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY		NON X-RAY
1H0548-322	87.14 -32.23 05 48 32 -32 13 39	237.49 -26.18 85.71 -55.63	88.32 -32.22 05 53 16 -32 13 11	85.96 -32.29 05 43 49 -32 17 25	85.95 -32.22 05 43 48 -32 13 28	88.32 -32.15 05 53 15 -32 09 14	.132	.0080 .0004	4U 0543-31 XRS05438-316	1M 0545-32	PKS0548-322 (R)
1H0550+541	87.69 54.19 05 50 46 54 11 34	158.71 14.04 88.43 30.76	92.42 53.92 06 09 41 53 54 56	82.98 53.84 05 31 56 53 50 41	82.92 54.28 05 31 41 54 16 58	92.46 54.35 06 09 50 54 21 16	2.446	.0037 .0019			
1H0551-819	87.89 -81.93 05 51 33 -81 55 38	294.04 -29.11 271.12 -74.62	92.43 -82.01 06 09 42 -82 00 47	83.35 -82.01 05 33 24 -82 00 41	83.47 -81.79 05 33 53 -81 47 32	92.31 -81.79 06 09 14 -81 47 37	.277	.0032 .0006			
1H0551-074	87.84 -7.44 05 51 20 -07 26 31	213.08 -16.19 87.50 -30.87	88.29 -7.50 05 53 09 -07 30 02	87.38 -7.52 05 49 32 -07 31 23	87.38 -7.38 05 49 31 -07 22 59	88.29 -7.36 05 53 08 -07 21 38	.126	.0072 .0007	H 0550-075		NGC2110 (R)
1H0551+463	87.89 46.37 05 51 34 46 22 20	165.82 10.44 88.42 22.94	89.34 46.32 05 57 22 46 19 01	86.45 46.29 05 45 47 46 17 07	86.44 46.41 05 45 45 46 24 33	89.34 46.44 05 57 22 46 26 27	.248	.0078 .0008	2A 0551+446 1M 0600+46	4U 0558+46 XRS05512+466	MCG8-11-11 (R)
1H0553-480	88.37 -48.08 05 53 29 -48 04 38	255.14 -28.99 86.58 -71.50	89.13 -48.09 05 56 31 -48 05 33	87.64 -48.22 05 50 34 -48 12 56	87.62 -48.06 05 50 28 -48 03 24	89.10 -47.93 05 56 24 -47 56 02	.160	.0047 .0005	4U 0553-48?		
1H0555-384	88.99 -38.49 05 55 58 -38 29 16	244.67 -26.47 88.32 -61.93	89.46 -38.52 05 57 49 -38 31 12	88.54 -38.55 05 54 08 -38 33 13	88.53 -38.45 05 54 07 -38 27 13	89.45 -38.42 05 57 47 -38 25 13	.072	.0070 .0006	4U 0557-38	XRS05570-381	 (R)
1H0555+680	88.81 68.03 05 55 13 68 01 30	145.86 20.46 89.37 44.58	91.47 67.94 06 05 53 67 56 14	86.15 67.91 05 44 35 67 54 51	86.13 68.07 05 44 30 68 04 11	91.49 68.09 06 05 56 68 05 35	.312	.0041 .0005			
1H0556+286	89.23 28.67 05 56 54 28 40 08	181.84 2.59 89.32 5.23	90.37 28.60 06 01 27 28 35 48	88.09 28.59 05 52 21 28 35 09	88.09 28.73 05 52 20 28 43 54	90.37 28.74 06 01 27 28 44 33	.292	.0051 .0006	4U 0548+29	XRS05480+290	
1H0556+126	89.19 12.64 05 56 45 12 38 37	195.71 -5.45 89.19 -10.80	89.83 12.55 05 59 19 12 33 14	88.54 12.55 05 54 10 12 33 06	88.54 12.73 05 54 09 12 43 54	89.83 12.73 05 59 19 12 44 02	.227	.0075 .0009			 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H0557-503	89.36 -50.30 05 57 26 -50 18 07	257.76 -28.72 88.54 -73.74	89.91 -50.33 05 59 39 -50 19 30	88.82 -50.38 05 55 16 -50 22 34	88.81 -50.28 05 55 14 -50 16 35	89.90 -50.23 05 59 36 -50 13 31	.070	.0060 .0005			
1H0606-351	91.55 -35.11 06 06 11 -35 06 28	241.73 -23.55 92.42 -58.54	92.04 -35.16 06 08 09 -35 09 42	91.06 -35.21 06 04 15 -35 12 43	91.05 -35.05 06 04 12 -35 03 08	92.03 -35.00 06 08 06 -35 00 07	.128	.0075 .0008			
1H0609-659	92.26 -65.96 06 09 02 -65 57 52	275.73 -28.88 148.08 -88.92	92.42 -66.09 06 09 41 -66 05 18	91.92 -65.99 06 07 40 -65 59 06	92.10 -65.84 06 08 23 -65 50 26	92.60 -65.94 06 10 24 -65 56 35	.037	.0043 .0003			STR0609-657?
1H0610+091	92.69 9.17 06 10 45 09 10 13	200.44 -4.14 92.74 -14.25	93.66 9.13 06 14 38 09 07 37	91.72 9.17 06 06 52 09 10 16	91.72 9.21 06 06 52 09 12 40	93.66 9.17 06 14 39 09 10 01	.077	.1804 .0504	2S 0614+091 1M 0614+09 XRS06143+091	4U 0614+09 CGS0614+09	V1055 Ori (R)
1H0612+226	93.13 22.61 06 12 31 22 36 52	188.85 2.70 92.89 -.80	93.33 22.58 06 13 18 22 34 52	92.94 22.59 06 11 44 22 35 14	92.94 22.65 06 11 44 22 38 50	93.33 22.64 06 13 18 22 38 28	.022	.0376 .0021	4U 0617+23 XRS06137+224	1M 0614+22	IC443 (R)
1H0613+479	93.47 47.94 06 13 53 47 56 37	166.15 14.53 92.56 24.53	94.54 47.79 06 18 08 47 47 33	92.40 47.84 06 09 35 47 50 20	92.40 48.09 06 09 36 48 05 06	94.55 48.04 06 18 13 48 02 17	.354	.0108 .0018	2A 0608+497	XRS06088+497	3C153? (R)
1H0620-646	95.12 -64.64 06 20 29 -64 38 40	274.35 -27.58 140.30 -87.15	95.22 -64.88 06 20 52 -64 52 51	94.70 -64.49 06 18 47 -64 29 21	95.03 -64.41 06 20 08 -64 24 28	95.56 -64.80 06 22 13 -64 47 54	.075	.0043 .0004			SC 0620-646
1H0623-539	95.79 -53.99 06 23 10 -53 59 09	262.65 -25.53 105.44 -77.12	97.45 -54.23 06 29 48 -54 14 00	94.10 -53.87 06 16 23 -53 52 21	94.15 -53.72 06 16 37 -53 42 57	97.49 -54.08 06 29 58 -54 04 31	.320	.0070 .0009	2A 0626-541 XRS06261-541	4U 0627-54	STR0627-544 (R)
1H0627-563	96.87 -56.31 06 27 28 -56 18 26	265.31 -25.41 110.84 -79.26	97.69 -56.56 06 30 45 -56 33 20	95.94 -56.29 06 23 44 -56 17 08	96.06 -56.05 06 24 13 -56 03 12	97.80 -56.32 06 31 11 -56 19 18	.243	.0045 .0007	(1M)0624-55?		STR0631-562?
1H0628-609	97.03 -60.92 06 28 06 -60 55 21	270.36 -26.20 122.10 -83.58	97.46 -61.14 06 29 50 -61 08 08	96.43 -60.86 06 25 42 -60 51 44	96.60 -60.71 06 26 23 -60 42 30	97.63 -60.98 06 30 31 -60 58 49	.101	.0032 .0004			

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0633-752	98.40 -75.21 06 33 36 -75 12 49	286.33 -27.40 256.31 -80.94	99.65 -75.15 06 38 37 -75 08 47	97.35 -75.40 06 29 23 -75 24 11	97.14 -75.27 06 28 32 -75 16 25	99.43 -75.02 06 37 42 -75 01 09	.090	.0032 .0003		PKS0637-75? (R)
1H0633+049	98.28 5.00 06 33 06 04 59 49	206.73 -1.21 98.68 -18.20	99.20 4.82 06 36 48 04 48 54	97.34 4.92 06 29 20 04 55 04	97.35 5.18 06 29 24 05 10 39	99.22 5.07 06 36 51 05 04 28	.484	.0061 .0011		3C163 NGC2337
1H0635-431	98.87 -43.16 06 35 27 -43 09 44	251.90 -20.67 106.12 -66.11	99.62 -43.31 06 38 29 -43 18 36	98.08 -43.18 06 32 20 -43 10 48	98.11 -43.01 06 32 27 -43 00 33	99.65 -43.14 06 38 35 -43 08 21	.194	.0047 .0006		
1H0635-292	98.87 -29.24 06 35 28 -29 14 29	238.21 -15.69 102.71 -52.30	100.00 -29.44 06 39 59 -29 26 12	97.72 -29.24 06 30 52 -29 14 09	97.74 -29.04 06 30 58 -29 02 13	100.02 -29.24 06 40 04 -29 14 14	.400	.0046 .0007	4U 0628-28? XRS06288-284	
1H0636-403	99.03 -40.39 06 36 06 -40 23 07	249.15 -19.65 105.45 -63.35	100.30 -40.68 06 41 12 -40 40 36	97.70 -40.40 06 30 46 -40 23 52	97.76 -40.08 06 31 02 -40 04 47	100.35 -40.36 06 41 25 -40 21 26	.644	.0033 .0009		
1H0637-387	99.30 -38.77 06 37 12 -38 46 02	247.62 -18.89 105.43 -61.72	100.55 -39.04 06 42 12 -39 02 31	98.01 -38.77 06 32 01 -38 46 12	98.06 -38.48 06 32 15 -38 28 46	100.60 -38.75 06 42 23 -38 45 01	.588	.0033 .0008	4U0627-38	
1H0637+535	99.49 53.53 06 37 56 53 31 31	162.24 20.16 96.52 30.29	101.14 53.29 06 44 32 53 17 25	97.79 53.44 06 31 10 53 26 30	97.82 53.74 06 31 16 53 44 14	101.19 53.58 06 44 44 53 35 05	.592	.0031 .0010	H 0643+534	Anon 0637+53 (R)
1H0641-418	100.45 -41.85 06 41 48 -41 51 02	251.00 -19.13 108.38 -64.63	101.75 -42.14 06 47 00 -42 08 20	99.10 -41.80 06 36 24 -41 48 05	99.16 -41.55 06 36 39 -41 32 52	101.80 -41.88 06 47 13 -41 53 02	.516	.0032 .0007		
1H0641+741	100.35 74.14 06 41 23 74 08 19	140.66 25.76 94.46 50.85	103.91 73.93 06 55 38 73 55 56	96.68 74.16 06 26 42 74 09 26	96.70 74.29 06 26 48 74 17 06	103.99 74.06 06 55 58 74 03 30	.256	.0050 .0005	4U 0638+74 XRS06384+472	
1H0645-633	101.30 -63.37 06 45 13 -63 22 20	273.44 -24.71 151.59 -84.27	101.52 -63.64 06 46 03 -63 38 14	100.80 -63.20 06 43 13 -63 12 12	101.10 -63.11 06 44 23 -63 06 25	101.81 -63.54 06 47 14 -63 32 21	.088	.0039 .0004		

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H0646+152	101.57 15.27 06 46 16 15 16 25	199.08 6.38 101.26 -7.72	102.59 15.06 06 50 21 15 03 26	100.53 15.22 06 42 06 15 13 05	100.55 15.49 06 42 11 15 29 07	102.62 15.32 06 50 27 15 19 27	.536	.0036 .0008			
1H0646+250	101.65 25.07 06 46 35 25 04 13	190.21 10.75 100.54 2.05	102.35 24.91 06 49 24 24 54 22	100.92 25.01 06 43 41 25 00 42	100.94 25.23 06 43 46 25 13 52	102.37 25.13 06 49 29 25 07 31	.286	.0072 .0011			
1H0655+375	103.75 37.60 06 55 01 37 35 42	179.11 17.41 101.23 14.68	104.99 37.36 06 59 57 37 21 30	102.48 37.55 06 49 55 37 33 13	102.51 37.82 06 50 02 37 49 07	105.03 37.62 07 00 06 37 37 21	.532	.0034 .0007			
1H0656-525	104.13 -52.57 06 56 30 -52 34 06	262.61 -20.35 123.42 -74.37	105.81 -53.18 07 03 15 -53 10 45	102.28 -52.20 06 49 07 -52 12 09	102.49 -51.93 06 49 57 -51 56 04	106.01 -52.91 07 04 01 -52 54 18	.701	.0021 .0006			
1H0658+595	104.57 59.52 06 58 17 59 31 12	156.85 24.51 99.14 36.54	106.47 59.21 07 05 52 59 12 29	102.58 59.46 06 50 18 59 27 21	102.64 59.80 06 50 34 59 48 15	106.57 59.55 07 06 17 59 33 13	.700	.0023 .0007			
1H0659-494	104.93 -49.44 06 59 42 -49 26 19	259.67 -18.82 121.42 -71.26	105.97 -49.77 07 03 53 -49 45 59	103.78 -49.33 06 55 07 -49 19 55	103.89 -49.10 06 55 34 -49 06 05	106.08 -49.53 07 04 18 -49 32 02	.360	.0048 .0008	4U 0708-49	XRS07084-492	
1H0659+453	104.87 45.34 06 59 27 45 20 37	171.70 20.84 101.25 22.48	106.27 45.16 07 05 03 45 09 40	103.44 45.38 06 53 45 45 22 54	103.46 45.51 06 53 49 45 30 33	106.29 45.29 07 05 09 45 17 17	.256	.0071 .0008	2A 0710+456	XRS07107+456	Mkn 376? (R)
1H0703+508	105.83 50.85 07 03 18 50 50 54	166.23 23.07 101.25 28.02	107.38 50.65 07 09 31 50 39 13	104.24 50.90 06 56 57 50 53 57	104.26 51.02 06 57 02 51 01 21	107.41 50.78 07 09 37 50 46 35	.248	.0071 .0007			NGC2321
1H0705-812	106.39 -81.23 07 05 33 -81 14 03	293.23 -26.43 260.58 -74.77	110.77 -80.99 07 23 05 -80 59 22	102.54 -81.67 06 50 08 -81 40 12	101.79 -81.43 06 47 09 -81 25 32	109.87 -80.76 07 19 28 -80 45 47	.379	.0029 .0007			
1H0706-567	106.74 -56.78 07 06 58 -56 47 00	267.39 -20.30 136.76 -77.49	107.15 -56.97 07 08 35 -56 58 24	106.24 -56.69 07 04 57 -56 41 12	106.34 -56.59 07 05 21 -56 35 30	107.25 -56.88 07 08 59 -56 52 39	.063	.0055 .0004	2A 0700-563	H 0700-563	

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY		NON X-RAY
1H0707+443	106.91 44.32 07 07 38 44 19 09	173.23 21.91 102.94 21.63	108.38 44.05 07 13 30 44 02 44	105.39 44.32 07 01 33 44 18 55	105.43 44.57 07 01 42 44 34 26	108.43 44.30 07 13 43 44 18 10	.562	.0060 .0011			RNGC2337?
1H0709-360	107.43 -36.02 07 09 43 -36 01 18	247.60 -11.88 117.08 -57.84	108.62 -36.40 07 14 29 -36 23 51	106.16 -35.95 07 04 38 -35 56 42	106.25 -35.63 07 05 00 -35 38 02	108.71 -36.08 07 14 49 -36 05 05	.653	.0038 .0009	2A 0708-357 (1M)0657-35	4U 0711-38? XRS07080-357	
1H0711+183	107.85 18.27 07 11 23 18 22 17	198.90 13.13 106.95 -4.03	108.88 18.19 07 15 32 18 11 24	106.79 18.43 07 07 10 18 26 03	106.81 18.55 07 07 13 18 32 51	108.90 18.30 07 15 35 18 18 11	.228	.0091 .0008			
1H0712+558	108.11 55.82 07 12 25 55 49 16	161.28 25.57 102.03 33.13	109.43 55.62 07 17 43 55 37 00	106.73 55.83 07 06 54 55 49 56	106.76 56.01 07 07 03 56 00 39	109.48 55.79 07 17 56 55 47 40	.277	.0074 .0008	4U 0720+55	XRS07202+558	A576? Mkn 85? (R)
1H0713-112	108.32 -11.27 07 13 17 -11 16 16	225.78 .12 111.66 -33.35	108.85 -11.43 07 15 23 -11 25 30	107.78 -11.27 07 11 06 -11 16 28	107.80 -11.12 07 11 11 -11 06 57	108.87 -11.27 07 15 28 -11 15 59	.170	.0068 .0008	H 0712-113		
1H0714-390	108.58 -39.09 07 14 19 -39 05 07	250.83 -12.36 120.25 -60.59	109.79 -39.48 07 19 08 -39 28 49	107.29 -38.96 07 09 09 -38 57 46	107.39 -38.68 07 09 34 -38 40 41	109.88 -39.19 07 19 30 -39 11 36	.592	.0031 .0007	4U 0711-38	XRS07113-384	
1H0717+714	109.39 71.43 07 17 33 71 25 55	143.99 28.12 99.20 48.61	112.35 71.11 07 29 24 71 06 21	106.23 71.50 07 04 55 71 30 10	106.33 71.71 07 05 19 71 42 37	112.51 71.31 07 30 02 71 18 33	.420	.0030 .0005	1E 0716+71		 (R)
1H0723-749	110.91 -74.94 07 23 37 -74 56 40	286.65 -24.19 240.16 -79.26	112.99 -74.59 07 31 58 -74 35 35	109.34 -75.46 07 17 21 -75 27 30	108.72 -75.28 07 14 53 -75 16 33	112.37 -74.42 07 29 28 -74 25 13	.307	.0029 .0005			
1H0725-132	111.37 -13.21 07 25 28 -13 12 38	228.91 1.82 115.59 -34.78	112.19 -13.52 07 28 45 -13 31 01	110.49 -13.20 07 21 58 -13 11 44	110.55 -12.90 07 22 12 -12 54 05	112.25 -13.22 07 28 59 -13 13 20	.504	.0056 .0011			
1H0726-377	111.74 -37.71 07 26 57 -37 42 29	250.70 -9.54 124.22 -58.60	112.91 -38.13 07 31 37 -38 07 52	110.48 -37.56 07 21 54 -37 33 52	110.59 -37.27 07 22 21 -37 16 26	113.01 -37.84 07 32 02 -37 50 18	.608	.0025 .0006	4U 0729-37	XRS07290-379	

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY	NON X-RAY
1H0726-259	111.57 -25.99 07 26 16 -25 59 38	240.21 -4.15 119.15 -47.28	112.64 -26.27 07 30 34 -26 16 26	110.47 -25.84 07 21 52 -25 50 32	110.50 -25.71 07 22 00 -25 42 21	112.67 -26.14 07 30 41 -26 08 13	.280	.0062 .0007	4U 0728-25 XRS07283-258	(R)
1H0729+316	112.27 31.69 07 29 05 31 41 41	187.57 21.92 109.10 9.71	113.41 31.41 07 33 37 31 24 40	111.09 31.72 07 24 21 31 43 00	111.13 31.97 07 24 31 31 58 05	113.46 31.66 07 33 49 31 39 42	.508	.0036 .0007		A586 YY Gem? (R)
1H0735-438	113.81 -43.83 07 35 14 -43 49 34	256.95 -10.97 131.43 -63.89	115.26 -44.33 07 41 02 -44 20 04	112.24 -43.59 07 28 57 -43 35 23	112.39 -43.30 07 29 32 -43 18 00	115.39 -44.04 07 41 34 -44 02 28	.708	.0030 .0007		
1H0735-372	113.90 -37.23 07 35 35 -37 13 46	251.08 -7.80 127.06 -57.64	115.01 -37.76 07 40 02 -37 45 36	112.61 -37.16 07 30 25 -37 09 21	112.80 -36.69 07 31 12 -36 41 19	115.19 -37.29 07 40 45 -37 17 20	.984	.0013 .0005		
1H0737-668	114.41 -66.84 07 37 39 -66 50 20	278.77 -20.46 192.90 -80.40	114.49 -67.85 07 37 56 -67 50 54	113.67 -65.87 07 34 39 -65 52 28	114.35 -65.83 07 37 23 -65 49 45	115.22 -67.80 07 40 53 -67 47 58	.564	.0030 .0006		
1H0738-075	114.66 -7.52 07 38 37 -07 31 04	225.47 7.40 118.10 -28.59	115.45 -7.81 07 41 48 -07 48 35	113.81 -7.50 07 35 13 -07 29 58	113.86 -7.22 07 35 26 -07 13 28	115.50 -7.53 07 42 00 -07 32 04	.465	.0046 .0009		
1H0739-529	114.87 -52.98 07 39 27 -52 58 51	265.63 -14.52 144.07 -71.78	116.20 -53.59 07 44 48 -53 35 20	113.39 -52.52 07 33 34 -52 31 01	113.57 -52.36 07 34 15 -52 21 30	116.37 -53.43 07 45 28 -53 25 35	.380	.0037 .0006		
1H0739+151	114.86 15.13 07 39 27 15 07 45	204.86 17.90 114.10 -6.26	115.47 14.94 07 41 52 14 56 06	114.23 15.14 07 36 54 15 08 40	114.26 15.32 07 37 01 15 19 19	115.50 15.11 07 42 00 15 06 44	.220	.0071 .0009		
1H0741+651	115.44 65.18 07 41 45 65 10 59	151.21 30.18 104.27 42.99	117.68 64.86 07 50 44 64 51 21	113.06 65.32 07 32 15 65 19 17	113.14 65.48 07 32 33 65 28 34	117.78 65.01 07 51 08 65 00 29	.316	.0040 .0005		Mkn 78 (R)
1H0741+289	115.38 28.97 07 41 31 28 58 04	191.33 23.54 112.22 7.46	116.31 28.71 07 45 13 28 42 50	114.41 29.00 07 37 39 28 59 54	114.46 29.22 07 37 49 29 12 56	116.35 28.93 07 45 23 28 55 50	.370	.0058 .0008		Sigma Gem (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY		NON X-RAY
1H0742-566	115.54 -56.64 07 42 10 -56 38 36	269.21 -15.79 152.62 -74.51	116.86 -57.35 07 47 25 -57 20 47	114.07 -56.06 07 36 16 -56 03 34	114.28 -55.93 07 37 06 -55 55 37	117.06 -57.21 07 48 14 -57 12 34	.352	.0041 .0006	4U 0718-54	XRS07183-546	
1H0743+037	115.86 3.71 07 43 25 03 42 42	215.98 13.78 117.12 -17.33	118.51 3.06 07 54 03 03 03 32	113.14 4.07 07 32 34 04 04 19	113.20 4.36 07 32 46 04 21 25	118.57 3.34 07 54 16 03 20 36	1.582	.0068 .0039	XRS07394+036		YZ CMi (R)
1H0743+184	115.92 18.49 07 43 40 18 29 16	202.04 20.18 114.52 -2.78	117.57 18.04 07 50 17 18 02 31	114.21 18.63 07 36 49 18 37 48	114.26 18.92 07 37 02 18 55 10	117.63 18.33 07 50 31 18 19 49	.954	.0050 .0015			 (R)
1H0744+499	116.06 49.93 07 44 14 49 55 34	168.77 29.25 108.71 28.16	117.81 49.57 07 51 14 49 34 29	114.23 50.05 07 36 54 50 03 14	114.28 50.25 07 37 08 50 15 02	117.88 49.77 07 51 31 49 46 10	.472	.0038 .0007	2A 0738+498	XRS07380+498	Mkn 79 (R)
1H0745-191	116.28 -19.17 07 45 07 -19 10 10	236.42 2.99 122.90 -39.66	117.62 -19.60 07 50 29 -19 35 45	114.88 -18.99 07 39 31 -18 59 09	114.94 -18.73 07 39 46 -18 44 00	117.68 -19.34 07 50 44 -19 20 32	.692	.0076 .0022	4U 0739-19	XRS07390-199	PKS0745-19 (R)
1H0748-297	117.02 -29.76 07 48 05 -29 45 39	245.88 -1.83 127.61 -49.74	118.14 -30.26 07 52 32 -30 15 40	115.80 -29.56 07 43 11 -29 33 21	115.92 -29.25 07 43 41 -29 15 03	118.26 -29.95 07 53 01 -29 57 15	.695	.0045 .0011	4U 0742-28	XRS07426-286	
1H0749-600	117.35 -60.07 07 49 24 -60 04 05	272.85 -16.46 164.92 -76.27	118.43 -61.06 07 53 43 -61 03 33	115.89 -59.22 07 43 33 -59 13 14	116.33 -59.07 07 45 19 -59 04 07	118.89 -60.90 07 55 33 -60 53 55	.612	.0038 .0011			
1H0749-554	117.33 -55.40 07 49 20 -55 24 15	268.54 -14.34 152.59 -72.92	118.65 -56.08 07 54 37 -56 04 41	115.89 -54.83 07 43 34 -54 49 56	116.06 -54.72 07 44 14 -54 43 00	118.82 -55.96 07 55 16 -55 57 32	.300	.0049 .0006			
1H0753+456	118.26 45.62 07 53 02 45 36 58	173.93 30.01 111.30 24.24	119.41 45.33 07 57 39 45 20 01	117.04 45.67 07 48 09 45 40 29	117.10 45.89 07 48 23 45 53 13	119.48 45.54 07 57 55 45 32 40	.367	.0062 .0009			
1H0754-438	118.56 -43.85 07 54 15 -43 50 45	258.66 -7.99 138.46 -62.57	119.78 -44.34 07 59 07 -44 20 33	117.25 -43.52 07 49 00 -43 30 56	117.37 -43.34 07 49 28 -43 20 12	119.89 -44.16 07 59 33 -44 09 40	.396	.0037 .0006			

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0755-218	118.89 -21.85 07 55 32 -21 50 48	239.98 3.71 126.88 -41.66	119.66 -22.15 07 58 39 -22 08 47	118.05 -21.75 07 52 12 -21 44 46	118.11 -21.54 07 52 26 -21 32 36	119.72 -21.94 07 58 53 -21 56 35	.325	.0047 .0007		
1H0757-384	119.44 -38.41 07 57 45 -38 24 43	254.32 -4.61 135.47 -57.30	120.47 -38.86 08 01 53 -38 51 37	118.29 -38.19 07 53 10 -38 11 39	118.42 -37.96 07 53 39 -37 57 18	120.59 -38.62 08 02 21 -38 37 08	.473	.0046 .0008		
1H0758+762	119.68 76.24 07 58 42 76 14 33	138.30 30.68 101.55 53.99	122.64 75.87 08 10 32 75 52 00	116.33 76.39 07 45 18 76 23 21	116.56 76.58 07 46 14 76 34 53	122.95 76.05 08 11 47 76 03 07	.320	.0042 .0006		
1H0759-490	119.81 -49.02 07 59 15 -49 01 11	263.61 -9.89 145.79 -66.78	120.50 -49.38 08 02 00 -49 22 39	119.00 -48.81 07 55 59 -48 48 41	119.14 -48.66 07 56 32 -48 39 29	120.63 -49.22 08 02 32 -49 13 20	.202	.0063 .0008	4U 0750-49 XRS07574-484	(R)
1H0801+213	120.30 21.35 08 01 12 21 20 49	200.87 25.07 118.03 .80	121.30 20.91 08 05 12 20 54 26	119.20 21.31 07 56 48 21 18 29	119.30 21.78 07 57 12 21 46 51	121.41 21.38 08 05 37 21 22 44	.964	.0019 .0008		
1H0802-469	120.72 -46.94 08 02 52 -46 56 10	262.12 -8.29 144.60 -64.67	121.97 -47.48 08 07 51 -47 28 32	119.39 -46.52 07 57 32 -46 31 28	119.50 -46.38 07 58 00 -46 22 59	122.08 -47.33 08 08 18 -47 19 54	.324	.0065 .0009	1E08083-4275	(R)
1H0806-545	121.68 -54.58 08 06 42 -54 35 05	269.07 -11.77 157.16 -70.72	122.62 -55.10 08 10 29 -55 06 09	120.49 -54.29 08 01 56 -54 17 31	120.75 -54.06 08 03 01 -54 03 36	122.88 -54.87 08 11 31 -54 51 57	.413	.0048 .0009	3U 0804-53	
1H0809+796	122.42 79.67 08 09 40 79 39 54	134.27 30.51 100.28 57.38	126.38 79.13 08 25 32 79 07 59	117.46 79.86 07 49 50 79 51 43	118.05 80.14 07 52 12 80 08 37	127.16 79.40 08 28 38 79 23 45	.534	.0031 .0007		
1H0811+625	122.87 62.59 08 11 28 62 35 37	154.12 33.54 109.44 41.35	124.05 62.33 08 16 11 62 19 31	121.56 62.68 08 06 15 62 40 44	121.67 62.85 08 06 41 62 51 07	124.17 62.50 08 16 40 62 29 46	.216	.0046 .0006		SU UMa (R)
1H0814-073	123.56 -7.37 08 14 13 -07 22 25	229.85 15.12 127.78 -26.52	124.06 -7.58 08 16 15 -07 35 02	123.01 -7.32 08 12 02 -07 19 10	123.05 -7.16 08 12 12 -07 09 45	124.10 -7.43 08 16 24 -07 25 36	.174	.0085 .0009	2A 0815-075 XRS08152-075	A644 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0815-571	123.93 -57.10 08 15 42 -57 06 04	271.93 -12.02 165.32 -71.74	124.61 -57.55 08 18 27 -57 33 05	123.10 -56.73 08 12 23 -56 43 58	123.26 -56.65 08 13 01 -56 38 50	124.77 -57.46 08 19 05 -57 27 50	.142	.0077 .0009	4U 0814-56 A 0813-57? XRS08142-567	 (R)
1H0816+017	124.03 1.76 08 16 05 01 45 26	221.78 20.08 125.91 -17.55	124.94 1.29 08 19 46 01 17 29	123.00 1.76 08 11 59 01 45 30	123.11 2.22 08 12 25 02 13 23	125.05 1.76 08 20 12 01 45 21	.956	.0015 .0006		A653 PKS0812+02 (R)
1H0820-426	125.02 -42.65 08 20 03 -42 38 51	260.20 -3.39 146.15 -59.46	126.23 -43.10 08 24 55 -43 05 57	123.80 -42.20 08 15 12 -42 12 03	123.82 -42.18 08 15 15 -42 10 59	126.24 -43.08 08 24 58 -43 04 53	.040	.3490 .0023	4U 0821-42 XRS08215-427	Pup A (R)
1H0822+042	125.70 4.28 08 22 48 04 16 47	220.25 22.75 126.99 -14.70	126.68 3.91 08 26 43 03 54 24	124.66 4.41 08 18 38 04 24 33	124.72 4.65 08 18 52 04 39 06	126.74 4.15 08 26 58 04 08 57	.519	.0052 .0010		
1H0823+301	125.83 30.11 08 23 20 30 06 51	193.15 32.56 120.99 10.44	126.93 29.78 08 27 42 29 46 36	124.68 30.25 08 18 43 30 15 00	124.73 30.44 08 18 56 30 26 34	126.98 29.97 08 27 55 29 58 07	.396	.0039 .0008		
1H0823+561	125.93 56.10 08 23 43 56 06 02	161.86 35.51 113.73 35.58	127.26 55.71 08 29 01 55 42 29	124.44 56.23 08 17 45 56 13 50	124.58 56.48 08 18 19 56 28 44	127.41 55.95 08 29 38 55 57 11	.432	.0045 .0008		A652 (R)
1H0824-641	126.11 -64.13 08 24 26 -64 07 59	278.61 -14.92 187.68 -74.96	126.71 -64.70 08 26 49 -64 42 11	124.87 -63.82 08 19 29 -63 49 26	125.54 -63.56 08 22 09 -63 33 39	127.38 -64.43 08 29 30 -64 25 54	.470	.0036 .0006		
1H0827+089	126.80 8.99 08 27 12 08 59 25	216.19 25.87 126.91 -9.86	127.77 8.68 08 31 03 08 40 53	125.80 9.17 08 23 12 09 09 54	125.83 9.30 08 23 20 09 17 49	127.80 8.81 08 31 11 08 48 47	.272	.0063 .0009		
1H0828-706	127.07 -70.65 08 28 16 -70 38 55	284.55 -18.10 213.63 -76.12	126.84 -71.21 08 27 21 -71 12 49	126.80 -70.09 08 27 13 -70 05 09	127.29 -70.08 08 29 08 -70 05 00	127.35 -71.21 08 29 23 -71 12 40	.185	.0048 .0006		
1H0832+488	128.19 48.82 08 32 46 48 49 23	170.86 37.02 117.74 28.99	129.08 48.55 08 36 19 48 32 47	127.22 48.90 08 28 51 48 54 00	127.30 49.09 08 29 10 49 05 35	129.17 48.74 08 36 40 48 44 17	.256	.0051 .0007		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY	NON X-RAY
1H0833+153	128.38 15.32 08 33 31 15 18 56	210.42 29.91 126.86 -3.35	129.36 14.96 08 37 25 14 57 24	127.35 15.45 08 29 23 15 27 04	127.41 15.67 08 29 37 15 40 14	129.42 15.18 08 37 39 15 10 31	.452	.0034 .0007		A689 (R)
1H0833+654	128.45 65.42 08 33 47 65 25 17	150.31 35.56 111.38 44.81	129.85 65.08 08 39 24 65 04 46	126.83 65.52 08 27 18 65 31 17	127.00 65.75 08 28 01 65 44 59	130.06 65.30 08 40 13 65 18 15	.322	.0047 .0008		Pi(1) UMa (R)
1H0834-793	128.55 -79.34 08 34 13 -79 20 23	292.67 -22.30 245.95 -73.57	131.77 -78.45 08 47 05 -78 27 09	126.40 -80.35 08 25 35 -80 21 11	124.78 -80.19 08 19 05 -80 11 19	130.34 -78.31 08 41 20 -78 18 52	.685	.0013 .0005		
1H0835+412	128.99 41.27 08 35 57 41 16 25	180.35 37.14 120.64 21.89	130.86 40.63 08 43 27 40 37 42	126.94 41.51 08 27 45 41 30 22	127.08 41.89 08 28 19 41 53 17	131.02 41.01 08 44 05 41 00 18	1.222	.0028 .0010		
1H0839-558	129.86 -55.89 08 39 27 -55 53 35	272.83 -8.64 169.68 -68.57	130.54 -56.36 08 42 10 -56 21 53	129.00 -55.54 08 35 59 -55 32 11	129.20 -55.42 08 36 48 -55 25 03	130.75 -56.24 08 42 59 -56 14 37	.199	.0042 .0005		
1H0845+361	131.27 36.12 08 45 04 36 07 09	187.10 38.26 123.95 17.41	132.40 35.69 08 49 35 35 41 13	130.02 36.24 08 40 05 36 14 09	130.13 36.54 08 40 30 36 32 27	132.51 35.99 08 50 02 35 59 23	.632	.0022 .0006		
1H0846-534	131.74 -53.43 08 46 56 -53 25 48	271.55 -6.27 167.44 -66.02	132.11 -53.68 08 48 26 -53 40 39	131.27 -53.25 08 45 03 -53 15 04	131.37 -53.18 08 45 27 -53 10 52	132.21 -53.61 08 48 50 -53 36 25	.061	.0090 .0006	H 0844-531	
1H0846+519	131.72 51.90 08 46 52 51 54 16	166.86 39.17 119.17 32.60	133.09 51.30 08 52 21 51 18 04	130.03 51.93 08 40 06 51 55 32	130.31 52.49 08 41 14 52 29 29	133.41 51.86 08 53 37 51 51 32	1.184	.0011 .0006	2A 0859+509? XRS08590+509	0846+51W1? (R)
1H0849+578	132.41 57.89 08 49 38 57 53 19	159.15 38.82 117.22 38.38	133.97 57.27 08 55 53 57 16 21	130.46 57.95 08 41 50 57 57 07	130.80 58.49 08 43 11 58 29 06	134.35 57.80 08 57 25 57 47 43	1.124	.0013 .0006		
1H0856+108	134.01 10.85 08 56 02 10 51 05	217.84 33.07 133.35 -6.22	135.33 10.29 09 01 19 10 17 19	132.58 11.06 08 50 20 11 03 21	132.68 11.41 08 50 44 11 24 30	135.44 10.64 09 01 44 10 38 25	1.028	.0044 .0011		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0857-242	134.49 -24.27 08 57 57 -24 16 29	250.37 14.04 145.87 -39.49	135.47 -24.74 09 01 53 -24 44 17	133.42 -24.02 08 53 41 -24 00 54	133.51 -23.80 08 54 03 -23 48 17	135.56 -24.53 09 02 14 -24 31 36	.452	.0044 .0010		
1H0859-403	135.00 -40.36 08 59 59 -40 21 35	263.03 3.89 156.28 -53.95	136.15 -40.84 09 04 36 -40 50 30	133.85 -39.89 08 55 22 -39 53 08	133.86 -39.87 08 55 26 -39 51 59	136.16 -40.82 09 04 39 -40 49 20	.044	.1770 .0013	4U 0900-40 Vela X-1 GX263+3 CGS0900-403 XRS09002-403	HD77581 GP Vel (R)
1H0900-482	135.12 -48.21 09 00 28 -48 12 43	268.96 -1.26 164.08 -60.59	136.31 -48.83 09 05 15 -48 49 32	133.86 -47.68 08 55 25 -47 40 35	133.95 -47.59 08 55 48 -47 35 09	136.41 -48.73 09 05 38 -48 43 59	.224	.0155 .0014	4U 0900-48?	
1H0900-375	135.24 -37.51 09 00 58 -37 30 32	261.02 5.93 154.38 -51.34	136.31 -38.07 09 05 13 -38 03 58	134.05 -37.16 08 56 13 -37 09 37	134.20 -36.94 08 56 47 -36 56 32	136.44 -37.85 09 05 46 -37 50 43	.492	.0040 .0007		PKS0902-38 (R)
1H0906-095	136.71 -9.56 09 06 50 -09 33 32	239.43 24.77 142.32 -24.92	136.99 -9.70 09 07 58 -09 42 12	136.39 -9.51 09 05 34 -09 30 26	136.43 -9.41 09 05 42 -09 24 51	137.02 -9.61 09 08 05 -09 36 37	.061	.0161 .0011	2A 0906-095 4U 0900-09 XRS09062-095	A754 (R)
1H0908-326	137.05 -32.69 09 08 12 -32 41 36	258.39 10.25 153.20 -46.36	137.81 -33.16 09 11 13 -33 09 36	136.16 -32.47 09 04 38 -32 28 26	136.31 -32.22 09 05 14 -32 13 19	137.95 -32.91 09 11 48 -32 54 23	.435	.0062 .0013		
1H0908-207	137.03 -20.79 09 08 06 -20 47 21	249.13 18.07 147.05 -35.39	137.98 -21.28 09 11 54 -21 16 35	135.98 -20.56 09 03 54 -20 33 41	136.09 -20.30 09 04 20 -20 17 49	138.08 -21.01 09 12 20 -21 00 38	.568	.0031 .0007		
1H0908+289	137.07 28.91 09 08 15 28 54 34	197.51 41.77 130.92 11.90	138.09 28.43 09 12 21 28 25 36	135.91 29.02 09 03 38 29 01 16	136.04 29.38 09 04 08 29 23 05	138.22 28.79 09 12 52 28 47 18	.760	.0021 .0007		
1H0910-374	137.67 -37.49 09 10 40 -37 29 18	262.31 7.37 157.08 -50.44	139.33 -38.38 09 17 19 -38 22 37	135.83 -36.89 09 03 19 -36 53 14	136.05 -36.58 09 04 11 -36 34 36	139.54 -38.06 09 18 08 -38 03 37	1.120	.0040 .0009		
1H0912+407	138.16 40.79 09 12 39 40 47 09	181.51 44.02 127.95 23.48	139.37 40.38 09 17 29 40 23 00	136.88 41.03 09 07 30 41 01 45	136.94 41.18 09 07 45 41 10 32	139.44 40.53 09 17 46 40 31 42	.308	.0066 .0009		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY		NON X-RAY
1H0917-121	139.28 -12.10 09 17 06 -12 06 09	243.35 25.23 145.89 -26.50	140.22 -12.50 09 20 52 -12 29 42	138.29 -11.82 09 13 10 -11 49 16	138.34 -11.71 09 13 20 -11 42 23	140.26 -12.38 09 21 02 -12 22 48	.244	.0087 .0009			A780 (R)
1H0918-548	139.55 -54.87 09 18 13 -54 52 18	275.70 -3.83 177.77 -64.01	139.64 -54.94 09 18 34 -54 56 26	139.43 -54.82 09 17 42 -54 49 27	139.46 -54.80 09 17 51 -54 48 09	139.68 -54.92 09 18 43 -54 55 08	.005	.0317 .0006	2S 0918-549 CGS0918-549	4U 0919-54 XRS09189-549	 (R)
1H0919-312	139.86 -31.23 09 19 27 -31 13 56	258.96 12.99 155.39 -44.03	140.91 -31.69 09 23 37 -31 41 34	138.79 -30.85 09 15 08 -30 50 47	138.83 -30.76 09 15 19 -30 45 48	140.95 -31.61 09 23 48 -31 36 33	.184	.0100 .0008	2A 0922-317 XRS09233-314	4U 0923-31	 (R)
1H0920-629	140.16 -62.90 09 20 38 -62 54 05	281.64 -9.28 193.89 -68.88	140.54 -63.33 09 22 09 -63 19 43	139.53 -62.54 09 18 07 -62 32 36	139.79 -62.47 09 19 10 -62 28 23	140.81 -63.26 09 23 14 -63 15 23	.127	.0085 .0008	H 0921-631	3S 0921-630	 (R)
1H0921+449	140.25 44.95 09 21 01 44 57 15	175.57 45.40 128.01 27.92	141.50 44.47 09 26 00 44 28 28	138.86 45.17 09 15 25 45 09 55	138.98 45.42 09 15 56 45 25 12	141.64 44.73 09 26 33 44 43 34	.540	.0033 .0007			
1H0921+633	140.28 63.39 09 21 07 63 23 10	150.89 41.03 119.13 44.94	142.20 62.78 09 28 47 62 46 53	138.01 63.70 09 12 03 63 41 51	138.28 63.96 09 13 08 63 57 50	142.50 63.04 09 29 59 63 02 22	.611	.0034 .0007	3U 0917+63	XRS09177+634	A804?
1H0922-810	140.67 -81.03 09 22 41 -81 01 33	295.45 -21.62 248.24 -71.00	142.18 -80.57 09 28 42 -80 33 58	140.23 -81.54 09 20 54 -81 32 24	139.01 -81.48 09 16 02 -81 28 43	141.07 -80.51 09 24 17 -80 30 39	.194	.0057 .0008			 (R)
1H0926-362	141.50 -36.26 09 26 00 -36 15 45	263.59 10.41 160.37 -47.93	142.63 -36.84 09 30 31 -36 50 33	140.24 -35.93 09 20 56 -35 56 05	140.39 -35.67 09 21 34 -35 40 19	142.78 -36.58 09 31 07 -36 34 36	.623	.0043 .0009			
1H0927+501	141.77 50.12 09 27 04 50 07 13	168.06 45.67 126.96 33.10	143.14 49.64 09 32 34 49 38 40	140.25 50.39 09 21 00 50 23 21	140.37 50.58 09 21 28 50 34 47	143.27 49.83 09 33 03 49 49 56	.408	.0037 .0006			A793
1H0929+122	142.45 12.20 09 29 48 12 12 15	220.83 41.10 140.86 -2.47	143.39 11.80 09 33 33 11 47 42	141.45 12.43 09 25 47 12 25 34	141.51 12.61 09 26 02 12 36 38	143.45 11.98 09 33 48 11 58 44	.388	.0038 .0006			A803? (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H0932+107	143.11 10.79 09 32 25 10 47 16	222.89 41.05 141.92 -3.61	144.03 10.36 09 36 08 10 21 24	142.10 10.99 09 28 25 10 59 39	142.18 11.22 09 28 43 11 12 58	144.11 10.58 09 36 26 10 34 42	.468	.0039 .0007		
1H0945+252	146.26 25.28 09 45 02 25 16 39	205.12 48.96 140.01 11.06	147.26 24.84 09 49 01 24 50 21	145.18 25.51 09 40 42 25 30 46	145.25 25.71 09 41 00 25 42 33	147.34 25.03 09 49 20 25 02 03	.416	.0035 .0006		
1H0946-309	146.63 -30.96 09 46 31 -30 57 53	263.09 17.20 162.34 -41.28	147.64 -31.47 09 50 34 -31 28 00	145.55 -30.58 09 42 12 -30 34 54	145.63 -30.46 09 42 30 -30 27 18	147.72 -31.34 09 50 51 -31 20 19	.284	.0084 .0010	2A 0946-310 4U 0945-30 XRS09459-306	MCG-5-23-16 (R)
1H0946-144	146.66 -14.41 09 46 39 -14 24 26	250.60 29.16 154.31 -26.11	147.61 -14.82 09 50 25 -14 49 09	145.69 -14.08 09 42 45 -14 04 43	145.73 -13.99 09 42 54 -13 59 29	147.64 -14.73 09 50 34 -14 43 54	.188	.0098 .0008	2A 0943-140 4U 0937-12 XRS09433-140	NGC2992 (R)
1H0947+169	146.98 16.94 09 47 54 16 56 32	217.30 47.03 143.47 3.44	148.41 16.23 09 53 38 16 13 54	145.39 17.26 09 41 34 17 15 40	145.53 17.64 09 42 07 17 38 33	148.55 16.61 09 54 13 16 36 40	1.239	.0047 .0013		NGC3041
1H0950+696	147.62 69.63 09 50 28 69 37 50	141.80 40.64 118.38 51.80	148.61 69.30 09 54 25 69 18 06	146.35 69.82 09 45 23 69 49 14	146.60 69.95 09 46 22 69 57 14	148.86 69.43 09 55 26 69 25 54	.149	.0080 .0008	2A 0954+700 4U 1004+70 1M 0943+712 XRS09544+700	M82 (R)
1H0951+057	147.93 5.73 09 51 44 05 44 03	231.97 42.69 148.12 -6.81	148.84 5.29 09 55 22 05 17 32	146.95 5.97 09 47 48 05 58 17	147.03 6.17 09 48 06 06 10 28	148.92 5.50 09 55 39 05 29 43	.432	.0039 .0007		
1H0952-770	148.20 -77.04 09 52 47 -77 02 30	293.58 -17.78 235.70 -70.24	148.60 -76.04 09 54 23 -76 02 27	148.70 -78.04 09 54 48 -78 02 27	147.74 -78.04 09 50 56 -78 02 30	147.77 -76.04 09 51 04 -76 02 30	.400	.0044 .0009		
1H1000-600	150.00 -60.05 10 00 00 -60 02 49	283.33 -4.05 194.98 -63.41	151.18 -60.87 10 04 42 -60 51 57	148.62 -59.32 09 54 29 -59 19 27	148.88 -59.22 09 55 31 -59 13 05	151.44 -60.75 10 05 46 -60 45 17	.340	.0061 .0009		
1H1003+428	150.94 42.86 10 03 45 42 51 22	177.09 53.31 137.01 28.84	152.14 42.38 10 08 33 42 22 53	149.64 43.17 09 58 33 43 10 27	149.72 43.32 09 58 53 43 19 06	152.23 42.52 10 08 54 42 31 25	.312	.0044 .0006		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY	NON X-RAY
1H1005-365	151.26 -36.51 10 05 03 -36 30 21	269.86 15.36 170.51 -44.39	152.31 -37.06 10 09 13 -37 03 40	150.13 -36.08 10 00 32 -36 05 02	150.24 -35.94 10 00 56 -35 56 30	152.41 -36.92 10 09 37 -36 55 02	.328	.0034 .0005		
1H1006-472	151.67 -47.21 10 06 40 -47 12 29	276.57 6.91 179.64 -53.28	152.93 -48.00 10 11 44 -48 00 17	150.16 -46.66 10 00 38 -46 39 36	150.44 -46.40 10 01 45 -46 23 52	153.21 -47.74 10 12 50 -47 44 09	.754	.0032 .0008		
1H1008-318	152.03 -31.84 10 08 07 -31 50 17	267.42 19.46 168.28 -39.98	153.03 -32.39 10 12 06 -32 23 07	150.93 -31.47 10 03 43 -31 28 02	151.05 -31.28 10 04 10 -31 17 00	153.14 -32.20 10 12 32 -32 11 58	.416	.0041 .0008		
1H1008+343	152.12 34.37 10 08 28 34 22 19	191.38 55.09 141.58 21.37	153.14 33.85 10 12 34 33 51 16	150.94 34.58 10 03 46 34 34 49	151.08 34.88 10 04 20 34 52 50	153.29 34.15 10 13 10 34 09 08	.631	.0047 .0014		3C236? (R)
1H1011-002	152.91 -.21 10 11 39 -00 12 31	242.54 43.23 154.94 -10.63	154.47 -1.05 10 17 52 -01 03 08	151.20 .24 10 04 48 00 14 14	151.36 .64 10 05 26 00 38 06	154.62 -.65 10 18 29 -00 39 15	1.502	.0032 .0011		A954?
1H1012-574	153.01 -57.50 10 12 02 -57 29 43	283.13 -1.07 193.15 -60.55	153.72 -57.98 10 14 53 -57 58 58	152.12 -57.11 10 08 29 -57 06 23	152.32 -57.00 10 09 17 -57 00 14	153.92 -57.88 10 15 40 -57 52 41	.181	.0088 .0010		RCW 48W (R)
1H1012-399	153.01 -39.92 10 12 01 -39 54 58	273.08 13.42 174.65 -46.65	154.03 -40.57 10 16 06 -40 34 01	151.79 -39.53 10 07 09 -39 31 55	152.01 -39.26 10 08 02 -39 15 24	154.24 -40.29 10 16 57 -40 17 15	.648	.0024 .0007	4U 1022-40 XRS10220-408	
1H1012-098	153.13 -9.86 10 12 30 -09 51 23	252.02 36.86 158.82 -19.53	154.43 -10.58 10 17 43 -10 34 56	151.69 -9.46 10 06 44 -09 27 39	151.83 -9.13 10 07 19 -09 07 31	154.57 -10.25 10 18 16 -10 14 44	1.064	.0045 .0013		A970? PKS1020-103? (R)
1H1013+498	153.43 49.85 10 13 43 49 50 56	165.10 52.92 135.40 35.91	154.50 49.38 10 17 58 49 22 31	152.19 50.10 10 08 44 50 05 56	152.34 50.31 10 09 22 50 18 46	154.66 49.59 10 18 38 49 35 09	.391	.0065 .0011		A950 (R)
1H1017+226	154.46 22.67 10 17 50 22 39 58	212.34 55.56 148.10 11.26	155.43 22.21 10 21 42 22 12 35	153.41 22.94 10 13 38 22 56 29	153.48 23.12 10 13 56 23 07 00	155.50 22.38 10 22 00 22 23 03	.376	.0037 .0006		

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H1017+202	154.38 20.24 10 17 30 20 14 37	216.34 54.76 148.92 8.98	155.00 19.92 10 19 59 19 55 19	153.69 20.40 10 14 44 20 24 10	153.75 20.56 10 15 00 20 33 48	155.06 20.08 10 20 15 20 04 54	.227	.0087 .0010	A 1021+198	H 1019+203	NGC3227 AD Leo? (R)
1H1023+513	155.89 51.33 10 23 34 51 19 54	161.74 53.71 136.31 37.94	156.99 50.83 10 27 57 50 50 05	154.60 51.60 10 18 24 51 36 04	154.77 51.82 10 19 05 51 49 05	157.17 51.05 10 28 41 51 02 54	.407	.0043 .0007			A1004 (R)
1H1027-351	156.92 -35.11 10 27 40 -35 06 48	272.95 19.13 175.04 -40.94	157.36 -35.40 10 29 25 -35 23 54	156.39 -34.97 10 25 33 -34 58 20	156.49 -34.83 10 25 57 -34 49 36	157.45 -35.25 10 29 48 -35 15 07	.149	.0076 .0008			NGC3267 NGC3268 NGC3271 STR1027-353
1H1027+040	156.87 4.02 10 27 29 04 01 27	241.38 48.97 157.11 -5.25	157.76 3.54 10 31 02 03 32 34	155.90 4.28 10 23 35 04 16 39	155.99 4.50 10 23 56 04 30 16	157.85 3.77 10 31 24 03 46 10	.488	.0032 .0006			
1H1032-142	158.20 -14.25 10 32 47 -14 15 02	260.30 36.85 165.53 -21.66	159.14 -14.79 10 36 34 -14 47 20	157.15 -13.96 10 28 35 -13 57 21	157.26 -13.71 10 29 02 -13 42 30	159.25 -14.54 10 37 00 -14 32 25	.568	.0040 .0007			
1H1033-273	158.44 -27.30 10 33 44 -27 18 11	269.50 26.38 171.93 -33.42	158.67 -27.45 10 34 41 -27 27 04	158.16 -27.22 10 32 38 -27 13 28	158.20 -27.15 10 32 47 -27 09 17	158.71 -27.38 10 34 51 -27 22 53	.040	.0136 .0007	2A 1033-270 XRS10335-270	4U 1033-26	A1060 STR1034-272 (R)
1H1039-073	159.85 -7.36 10 39 23 -07 21 22	256.20 43.20 164.25 -14.68	160.75 -7.81 10 42 59 -07 48 44	158.89 -7.04 10 35 33 -07 02 24	158.95 -6.90 10 35 47 -06 53 53	160.81 -7.67 10 43 13 -07 40 12	.308	.0058 .0007	2A 1041-079	XRS10413-079	
1H1041+395	160.34 39.59 10 41 20 39 35 07	179.99 60.93 145.89 28.78	161.42 39.01 10 45 39 39 00 49	159.07 39.87 10 36 17 39 52 00	159.24 40.15 10 36 57 40 08 49	161.59 39.29 10 46 21 39 17 25	.616	.0027 .0007			A1068?
1H1043-641	160.89 -64.11 10 43 33 -64 06 46	289.82 -4.76 208.80 -61.92	161.87 -64.83 10 47 29 -64 49 39	159.56 -63.53 10 38 13 -63 31 31	159.95 -63.39 10 39 48 -63 23 30	162.28 -64.69 10 49 06 -64 41 16	.366	.0042 .0006			
1H1045-597	161.46 -59.71 10 45 50 -59 42 41	288.04 -.73 202.34 -58.87	162.82 -60.45 10 51 15 -60 27 00	160.10 -58.99 10 40 24 -58 59 25	160.17 -58.96 10 40 40 -58 57 34	162.88 -60.42 10 51 31 -60 25 04	.092	.0258 .0010	A 1044-59 XRS10440-594	4U 1053-58	Eta Car G287.8-0.5 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H1046+547	161.71 54.73 10 46 51 54 43 51	153.60 54.81 138.15 42.61	163.05 54.09 10 52 11 54 05 09	160.08 55.11 10 40 19 55 06 32	160.33 55.36 10 41 20 55 21 40	163.31 54.33 10 53 15 54 19 53	.580	.0025 .0006		
1H1051+607	162.76 60.72 10 51 03 60 42 58	145.60 51.21 134.22 47.95	164.37 60.10 10 57 27 60 06 10	161.00 61.24 10 43 59 61 14 09	161.10 61.31 10 44 23 61 18 35	164.47 60.17 10 57 52 60 10 27	.176	.0077 .0005	2A 1052+606 3U 1109+59 XRS10528+606	DM UMa (R)
1H1054-665	163.55 -66.56 10 54 12 -66 33 40	291.92 -6.46 214.45 -62.44	165.64 -67.94 11 02 33 -67 56 20	161.16 -65.30 10 44 37 -65 17 52	161.69 -65.16 10 46 44 -65 09 30	166.20 -67.78 11 04 47 -67 47 02	.834	.0064 .0017		
1H1055+299	163.82 29.92 10 55 17 29 55 16	200.42 64.99 153.23 21.20	164.94 29.29 10 59 44 29 17 40	162.54 30.24 10 50 10 30 14 06	162.70 30.54 10 50 47 30 32 19	165.10 29.60 11 00 23 29 35 43	.757	.0060 .0014		Mkn 36?
1H1058-762	164.51 -76.23 10 58 03 -76 13 56	296.41 -15.07 235.05 -66.40	163.71 -75.25 10 54 51 -75 14 52	166.19 -77.16 11 04 44 -77 09 34	165.43 -77.21 11 01 43 -77 12 50	163.05 -75.30 10 52 11 -75 17 43	.352	.0021 .0003	4U 1119-77 XRS11196-778	
1H1059+566	164.96 56.70 10 59 50 56 41 52	148.94 54.87 138.86 45.24	166.04 56.17 11 04 09 56 10 27	163.65 57.03 10 54 35 57 01 57	163.85 57.21 10 55 24 57 12 43	166.25 56.35 11 05 00 56 20 58	.333	.0051 .0007		A1132 (R)
1H1100-230	165.15 -23.04 11 00 36 -23 02 32	272.95 33.17 176.10 -26.93	166.04 -23.57 11 04 10 -23 33 55	164.15 -22.73 10 56 36 -22 43 54	164.27 -22.51 10 57 03 -22 30 51	166.15 -23.35 11 04 37 -23 20 47	.467	.0052 .0008	2A 1058-226 4U 1057-21 XRS10586-226	NGC3513?
1H1104+382	166.06 38.21 11 04 14 38 12 42	180.06 65.59 151.17 29.48	167.17 37.72 11 08 39 37 43 15	164.89 38.61 10 59 32 38 36 26	164.94 38.69 10 59 45 38 41 32	167.22 37.80 11 08 52 37 48 16	.188	.0094 .0007	2A 1102+384 XRS11020+384	Mkn 421 (R)
1H1106+026	166.74 2.69 11 06 58 02 41 34	253.95 55.29 166.76 -2.75	168.21 1.91 11 12 49 01 54 47	165.17 3.20 11 00 39 03 11 54	165.28 3.47 11 01 07 03 28 16	168.32 2.19 11 13 17 02 11 07	.976	.0030 .0019		A1171?
1H1109-783	167.33 -78.35 11 09 19 -78 20 51	297.90 -16.74 240.55 -66.37	166.83 -77.71 11 07 19 -77 42 29	168.88 -78.92 11 15 30 -78 55 09	167.89 -78.99 11 11 34 -78 59 09	165.93 -77.77 11 03 43 -77 46 05	.256	.0040 .0006		

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H1109+181	167.28 18.17 11 09 07 18 10 16	229.59 65.26 161.17 11.71	168.18 17.64 11 12 44 17 38 13	166.25 18.43 11 05 00 18 25 44	166.38 18.70 11 05 30 18 42 04	168.31 17.91 11 13 14 17 54 29	.592	.0022 .0006			A1204
1H1117-026	169.46 -2.66 11 17 51 -02 39 18	263.24 52.78 171.36 -6.61	170.33 -3.17 11 21 20 -03 09 58	168.49 -2.38 11 13 58 -02 22 43	168.59 -2.14 11 14 22 -02 08 36	170.44 -2.93 11 21 44 -02 55 51	.512	.0041 .0009			3CR255?
1H1118-602	169.72 -60.30 11 18 53 -60 17 51	292.06 .38 208.48 -56.31	169.83 -60.37 11 19 18 -60 22 00	169.58 -60.25 11 18 19 -60 14 53	169.62 -60.23 11 18 29 -60 13 41	169.87 -60.35 11 19 28 -60 20 48	.005	.0686 .0013	4U 1118-60 XRS11190-603	Cen X-3 CGS1119-603	V779 Cen (R)
1H1118-431	169.60 -43.20 11 18 24 -43 11 48	285.99 16.40 191.94 -42.87	170.68 -43.83 11 22 43 -43 50 05	168.36 -42.77 11 13 25 -42 45 54	168.55 -42.55 11 14 11 -42 32 55	170.87 -43.61 11 23 27 -43 36 53	.516	.0030 .0007	4U 1120-43	XRS11206-431	
1H1120+423	170.02 42.39 11 20 04 42 23 41	167.53 66.52 152.06 34.59	171.76 41.38 11 27 01 41 22 31	167.96 43.05 11 11 50 43 02 59	168.22 43.39 11 12 53 43 23 14	172.03 41.70 11 28 07 41 42 13	1.270	.0038 .0011			A1250? A1237? (R)
1H1121-591	170.25 -59.15 11 21 00 -59 08 45	291.92 1.55 207.39 -55.30	171.67 -59.84 11 26 39 -59 50 30	168.84 -58.46 11 15 21 -58 27 50	168.89 -58.44 11 15 34 -58 26 07	171.72 -59.81 11 26 52 -59 48 44	.080	.0342 .0010	H 1122-59		MSH11-54 (R)
1H1121+309	170.50 30.98 11 21 59 30 58 55	197.09 70.71 158.41 24.58	171.91 30.20 11 27 38 30 11 59	168.90 31.45 11 15 35 31 27 11	169.06 31.75 11 16 14 31 44 53	172.08 30.49 11 28 19 30 29 28	.938	.0046 .0012			B2 1115+31B?
1H1129+495	172.48 49.54 11 29 54 49 32 13	152.10 63.17 149.39 41.62	173.72 48.94 11 34 51 48 56 41	171.10 50.00 11 24 23 49 59 55	171.21 50.12 11 24 49 50 06 55	173.83 49.06 11 35 18 49 03 33	.272	.0060 .0007			A1314 (R)
1H1130+043	172.53 4.34 11 30 06 04 20 13	260.31 60.24 171.43 1.02	173.65 3.66 11 34 35 03 39 35	171.26 4.68 11 25 03 04 40 46	171.41 5.01 11 25 37 05 00 44	173.79 3.99 11 35 10 03 59 32	.937	.0042 .0011			1132+04?
1H1135-372	173.77 -37.25 11 35 04 -37 15 13	287.09 23.06 191.54 -36.14	174.63 -37.76 11 38 31 -37 45 48	172.79 -36.92 11 31 08 -36 55 07	172.92 -36.74 11 31 40 -36 44 16	174.76 -37.58 11 39 02 -37 34 49	.355	.0064 .0009	2A 1135-373 XRS11357-373	4U 1136-37	NGC3783 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H1135-125	173.85 -12.58 11 35 22 -12 34 49	276.56 46.22 179.45 -13.97	174.74 -13.08 11 38 57 -13 05 03	172.87 -12.27 11 31 27 -12 16 07	172.96 -12.07 11 31 49 -12 04 24	174.83 -12.89 11 39 18 -12 53 18	.428	.0034 .0007			
1H1137-649	174.31 -64.98 11 37 14 -64 58 31	295.50 -3.42 217.42 -57.99	175.78 -65.77 11 43 07 -65 46 11	172.64 -64.27 11 30 33 -64 16 23	172.93 -64.17 11 31 42 -64 10 02	176.07 -65.66 11 44 17 -65 39 27	.328	.0063 .0009	4U 1137-65	XRS11357-373	HD101379 (R)
1H1137+699	174.39 69.98 11 37 34 69 58 47	131.72 46.19 130.11 58.07	175.67 69.30 11 42 39 69 18 14	172.58 70.51 11 30 19 70 30 22	173.04 70.65 11 32 09 70 38 44	176.11 69.44 11 44 27 69 26 08	.330	.0042 .0006			Mkn180 (R)
1H1139+594	174.86 59.45 11 39 27 59 26 52	138.67 55.79 142.79 50.53	175.70 58.85 11 42 49 58 50 48	173.67 59.87 11 34 40 59 52 24	173.99 60.04 11 35 58 60 02 36	176.03 59.01 11 44 07 59 00 42	.345	.0054 .0008			
1H1142-178	175.74 -17.82 11 42 57 -17 48 54	281.64 42.04 183.43 -17.99	176.64 -18.35 11 46 33 -18 21 03	174.73 -17.52 11 38 54 -17 30 58	174.85 -17.27 11 39 22 -17 16 29	176.75 -18.11 11 47 00 -18 06 31	.532	.0029 .0006	4U 1130-14		
1H1142+199	175.75 19.95 11 42 59 19 57 08	235.72 73.17 167.97 16.58	176.07 19.75 11 44 16 19 44 42	175.37 20.04 11 41 28 20 02 25	175.43 20.16 11 41 42 20 09 32	176.13 19.86 11 44 30 19 51 49	.094	.0120 .0011	2A 1141+199 XRS11435+198	4U 1143+19	A1367 3C264 (R)
1H1144-617	176.17 -61.76 11 44 41 -61 45 22	295.47 -.10 214.25 -55.16	176.32 -61.85 11 45 16 -61 50 45	175.98 -61.69 11 43 54 -61 41 27	176.03 -61.67 11 44 06 -61 39 59	176.37 -61.82 11 45 28 -61 49 16	.008	.0407 .0009	4U 1145-61 XRS11455-619	CGS1145-619	HD102567 V801 Cen (R)
1H1145-034	176.45 -3.49 11 45 47 -03 29 09	274.28 55.56 178.13 -4.61	178.98 -4.89 11 55 55 -04 53 18	173.70 -2.57 11 34 48 -02 34 03	173.92 -2.08 11 35 41 -02 04 35	179.20 -4.40 11 56 47 -04 23 46	3.097	.0032 .0016			PKS1146-037
1H1148-499	177.08 -49.92 11 48 20 -49 55 07	293.10 11.51 203.11 -45.64	178.25 -50.60 11 52 59 -50 36 14	175.69 -49.46 11 42 44 -49 27 52	175.95 -49.22 11 43 48 -49 13 20	178.51 -50.36 11 54 01 -50 21 21	.596	.0028 .0007			
1H1150+738	177.50 73.82 11 50 00 73 48 54	128.56 42.94 125.30 61.19	179.09 72.92 11 56 21 72 55 00	175.01 74.56 11 40 01 74 33 32	175.73 74.70 11 42 55 74 42 01	179.78 73.04 11 59 06 73 02 41	.476	.0028 .0005			A1412? (R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H1151-130	177.93 -13.10 11 51 43 -13 05 53	282.24 47.19 183.40 -12.82	178.82 -13.62 11 55 16 -13 36 56	176.94 -12.80 11 47 46 -12 47 59	177.05 -12.58 11 48 11 -12 34 38	178.92 -13.39 11 55 40 -13 23 33	.488	.0031 .0006	4U 1147-12		
1H1151+039	177.84 3.92 11 51 22 03 55 12	270.12 62.79 176.46 2.74	178.73 3.44 11 54 54 03 26 20	176.89 4.24 11 47 33 04 14 06	176.96 4.40 11 47 50 04 24 01	178.80 3.60 11 55 11 03 36 14	.360	.0040 .0006			
1H1152+237	178.14 23.79 11 52 34 23 47 31	225.69 76.79 168.40 21.00	179.10 23.31 11 56 23 23 18 19	177.12 24.16 11 48 29 24 09 24	177.18 24.27 11 48 43 24 16 23	179.16 23.42 11 56 38 23 25 15	.256	.0053 .0005			A1413 (R)
1H1154+294	178.71 29.46 11 54 50 29 27 18	200.02 77.93 166.21 26.32	179.67 28.89 11 58 41 28 53 41	177.62 29.78 11 50 27 29 46 53	177.74 30.01 11 50 58 30 00 29	179.80 29.12 11 59 12 29 07 11	.504	.0029 .0006			4C29.45 (R)
1H1157-563	179.26 -56.39 11 57 03 -56 23 12	295.82 5.49 210.41 -50.07	181.72 -57.65 12 06 52 -57 38 44	176.50 -55.40 11 46 01 -55 24 04	176.97 -55.08 11 47 53 -55 04 57	182.17 -57.31 12 08 40 -57 18 27	1.517	.0029 .0009			
1H1159+581	179.99 58.13 11 59 56 58 07 44	135.25 58.09 147.37 51.18	181.31 57.41 12 05 14 57 24 48	178.38 58.68 11 53 31 58 40 47	178.61 58.83 11 54 26 58 49 50	181.54 57.56 12 06 09 57 33 32	.384	.0035 .0006			A1446
1H1205+440	181.44 44.01 12 05 46 44 00 31	147.81 71.25 160.13 40.14	182.52 43.36 12 10 04 43 21 43	180.15 44.40 12 00 34 44 24 01	180.35 44.65 12 01 23 44 38 42	182.73 43.60 12 10 54 43 36 08	.568	.0029 .0008			NGC4051 3C268.4 (R)
1H1207-067	181.97 -6.72 12 07 52 -06 43 06	285.24 54.46 184.48 -5.38	183.34 -7.52 12 13 20 -07 31 17	180.44 -6.30 12 01 44 -06 18 05	180.60 -5.91 12 02 24 -05 54 42	183.50 -7.13 12 14 00 -07 07 50	1.325	.0045 .0015	4U 1203-06	XRS12036-061	
1H1208-518	182.23 -51.88 12 08 54 -51 52 54	296.73 10.23 208.51 -45.42	183.15 -52.42 12 12 36 -52 25 01	181.10 -51.54 12 04 22 -51 32 10	181.32 -51.34 12 05 16 -51 20 21	183.37 -52.22 12 13 29 -52 12 57	.374	.0073 .0012			PKS1208-518 (R)
1H1210+393	182.61 39.38 12 10 25 39 22 51	154.34 75.58 164.08 36.59	183.23 39.00 12 12 55 39 00 17	181.87 39.61 12 07 28 39 36 40	181.97 39.75 12 07 53 39 45 14	183.34 39.15 12 13 21 39 08 46	.200	.0079 .0009	2A 1207+397 1M 1207+397	4U 1206+39 XRS12078+397	NGC4151 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H1211+762	182.94 76.20 12 11 46 76 12 02	125.93 40.99 122.41 63.62	184.17 75.32 12 16 40 75 19 02	180.52 76.95 12 02 05 76 56 46	181.55 77.08 12 06 12 77 04 38	185.12 75.43 12 20 28 75 26 02	.492	.0032 .0006			Mkn 205 (R)
1H1213+718	183.29 71.81 12 13 10 71 48 30	126.96 45.32 130.76 61.49	184.17 71.22 12 16 40 71 12 58	181.87 72.29 12 07 27 72 17 34	182.36 72.40 12 09 26 72 23 47	184.65 71.31 12 18 35 71 18 50	.236	.0056 .0007			
1H1215-549	183.96 -54.93 12 15 50 -54 55 36	298.21 7.37 212.28 -47.31	185.28 -55.60 12 21 06 -55 35 51	182.45 -54.42 12 09 48 -54 25 27	182.69 -54.24 12 10 45 -54 14 31	185.51 -55.41 12 22 01 -55 24 36	.456	.0027 .0005			
1H1215-390	183.76 -39.03 12 15 02 -39 02 03	295.84 23.09 200.99 -33.88	184.82 -39.62 12 19 17 -39 37 02	182.56 -38.66 12 10 14 -38 39 34	182.72 -38.44 12 10 52 -38 26 29	184.98 -39.40 12 19 54 -39 23 47	.500	.0032 .0007			
1H1219+301	184.77 30.17 12 19 05 30 09 57	188.35 82.89 171.16 29.32	185.13 29.94 12 20 31 29 56 25	184.35 30.28 12 17 23 30 16 46	184.41 30.39 12 17 38 30 23 26	185.19 30.05 12 20 46 30 03 04	.094	.0106 .0009	2A 1219+305	XRS12192+305	1219+305 (R)
1H1221-623	185.38 -62.38 12 21 31 -62 23 02	299.82 .05 220.38 -52.71	185.60 -62.51 12 22 24 -62 30 24	185.09 -62.30 12 20 21 -62 17 52	185.16 -62.26 12 20 38 -62 15 38	185.67 -62.47 12 22 41 -62 28 09	.016	.0286 .0010	4U 1223-62 CGS1223-624	GX301-2 XRS12238-624	WRA977 BP Cru (R)
1H1225-303	186.49 -30.33 12 25 56 -30 19 35	297.13 32.01 198.70 -25.12	187.47 -30.87 12 29 53 -30 52 05	185.39 -29.99 12 21 32 -29 59 38	185.51 -29.78 12 22 02 -29 46 38	187.59 -30.65 12 30 22 -30 38 58	.484	.0056 .0011			
1H1226+022	186.71 2.29 12 26 50 02 17 19	290.13 64.33 185.25 4.77	187.13 2.05 12 28 29 02 03 05	186.25 2.43 12 25 00 02 25 43	186.29 2.53 12 25 10 02 31 33	187.17 2.15 12 28 40 02 08 55	.101	.0129 .0011	2A 1225+022 XRS12260+24	4U 1226+02	3C273 (R)
1H1226+128	186.69 12.81 12 26 44 12 48 39	282.26 74.51 180.94 14.39	186.80 12.74 12 27 11 12 44 35	186.56 12.85 12 26 13 12 50 50	186.57 12.88 12 26 17 12 52 42	186.81 12.77 12 27 14 12 46 27	.009	.1044 .0029	2A 1228+125 1M 1228+127	4U 1228+12 XRS12287+126	M87 Virgo Cluster (R)
1H1226+505	186.63 50.55 12 26 31 50 33 09	131.96 66.46 159.19 47.53	187.63 49.95 12 30 30 49 56 53	185.38 50.93 12 21 31 50 55 57	185.61 51.15 12 22 26 51 08 55	187.86 50.16 12 31 27 50 09 35	.451	.0042 .0009			(R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H1228+081	187.16 8.18 12 28 37 08 10 55	287.98 70.19 183.29 10.35	188.04 7.68 12 32 09 07 40 51	186.19 8.48 12 24 45 08 29 00	186.28 8.68 12 25 06 08 40 53	188.13 7.88 12 32 30 07 52 43	.432	.0044 .0010	4U 1232+07	XRS12329+071	NGC4472
1H1229+199	187.45 19.91 12 29 48 19 54 29	271.60 81.32 178.55 21.16	188.37 19.40 12 33 29 19 24 13	186.45 20.25 12 25 47 20 14 58	186.52 20.41 12 26 05 20 24 27	188.45 19.56 12 33 48 19 33 40	.348	.0048 .0007			TON 1542? (R)
1H1238-599	189.53 -59.96 12 38 05 -59 57 21	301.63 2.62 220.41 -49.57	190.65 -60.88 12 42 36 -60 53 00	187.46 -59.66 12 29 49 -59 39 42	188.46 -59.02 12 33 50 -59 01 09	191.63 -60.22 12 46 30 -60 13 02	1.644	.0118 .0018	2S 1239-599 4U 1246-58 CGS1239-599	A 1238-59 A 1246-58 XRS12391-599	(R)
1H1238-050	189.59 -5.10 12 38 21 -05 05 47	298.08 57.40 190.81 -.89	190.18 -5.47 12 40 44 -05 28 11	188.91 -4.93 12 35 38 -04 55 35	189.00 -4.72 12 35 59 -04 43 21	190.27 -5.27 12 41 05 -05 15 56	.307	.0084 .0013	2A 1238-049	4U 1240-05	NGC4593 (R)
1H1241+626	190.33 62.61 12 41 20 62 36 37	124.53 54.77 148.48 57.93	191.61 61.80 12 46 26 61 48 01	188.67 63.27 12 34 40 63 16 16	188.99 63.41 12 35 57 63 24 29	191.93 61.93 12 47 42 61 55 50	.396	.0031 .0005			
1H1242+078	190.62 7.83 12 42 28 07 49 48	298.19 70.37 186.64 11.40	191.50 7.33 12 45 59 07 19 39	189.65 8.13 12 38 35 08 07 31	189.74 8.33 12 38 56 08 19 51	191.59 7.53 12 46 21 07 31 58	.448	.0051 .0010			
1H1244-588	191.12 -58.84 12 44 29 -58 50 21	302.42 3.76 220.40 -48.19	192.68 -59.44 12 50 43 -59 26 35	189.55 -58.27 12 38 10 -58 16 17	189.62 -58.22 12 38 29 -58 13 01	192.76 -59.39 12 51 01 -59 23 13	.136	.0167 .0009	4U 1246-58	XRS12466-588	(R)
1H1244-409	191.19 -40.91 12 44 44 -40 54 42	302.13 21.68 208.05 -32.85	192.36 -41.39 12 49 25 -41 23 07	190.01 -40.46 12 40 02 -40 27 22	190.03 -40.43 12 40 07 -40 25 34	192.38 -41.36 12 49 30 -41 21 18	.068	.0253 .0006	2A 1246-40 1M 1247-410	4U 1246-41 XRS12462-410	Cen Cluster PKS1245-51 (R)
1H1247+755	191.99 75.57 12 47 56 75 34 09	123.09 41.83 125.81 65.38	192.76 74.63 12 51 03 74 37 48	190.11 76.41 12 40 25 76 24 53	191.10 76.51 12 44 24 76 30 19	193.66 74.71 12 54 38 74 42 37	.476	.0028 .0006			A1607 (R)
1H1249-637	192.28 -63.71 12 49 07 -63 42 50	303.01 -1.11 225.68 -51.73	194.00 -64.37 12 56 00 -64 22 27	190.48 -63.12 12 41 56 -63 07 03	190.64 -63.03 12 42 33 -63 02 01	194.16 -64.29 12 56 37 -64 17 12	.220	.0098 .0009	A 1250-66?		(R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H1251-291	192.78 -29.12 12 51 07 -29 07 19	303.56 33.48 203.53 -21.69	192.98 -29.24 12 51 55 -29 14 11	192.55 -29.06 12 50 12 -29 03 42	192.58 -29.01 12 50 19 -29 00 26	193.01 -29.18 12 52 02 -29 10 55	.025	.0224 .0008	2A 1251-290 CGS1249-289	4U 1249-28 XRS12492-289	EX Hya (R)
1H1253-761	193.37 -76.11 12 53 28 -76 06 31	303.28 -13.51 241.88 -60.29	191.26 -75.25 12 45 03 -75 14 48	196.49 -76.80 13 05 58 -76 47 58	195.74 -76.95 13 02 57 -76 57 00	190.54 -75.38 12 42 09 -75 22 54	.456	.0029 .0007	4U 1302-77?	XRS13020-775	
1H1254-690	193.59 -69.02 12 54 20 -69 01 05	303.48 -6.42 232.20 -55.40	193.59 -69.02 12 54 20 -69 01 05	193.59 -69.02 12 54 20 -69 01 05	193.59 -69.02 12 54 20 -69 01 05	193.59 -69.02 12 54 20 -69 01 05	.000	.0934 .0029	2S 1254-691 1M 1254-69	4U 1254-69 CGS1254-691	 (R)
1H1255-567	193.83 -56.71 12 55 18 -56 42 33	303.87 5.88 220.36 -45.62	195.22 -57.38 13 00 53 -57 22 35	192.18 -56.27 12 48 43 -56 16 06	192.48 -56.03 12 49 55 -56 01 37	195.51 -57.13 13 02 02 -57 07 40	.588	.0038 .0009			
1H1255-172	193.88 -17.28 12 55 30 -17 16 53	305.21 45.29 199.50 -10.45	194.60 -17.69 12 58 24 -17 41 26	193.07 -17.06 12 52 16 -17 03 36	193.16 -16.87 12 52 37 -16 52 10	194.69 -17.50 12 58 44 -17 29 58	.331	.0083 .0012	H 1256-171		A1644 (R)
1H1257-610	194.48 -61.10 12 57 55 -61 05 53	304.08 1.48 224.46 -49.03	194.82 -61.27 12 59 17 -61 16 27	194.04 -60.98 12 56 10 -60 58 57	194.14 -60.92 12 56 34 -60 55 16	194.92 -61.21 12 59 41 -61 12 43	.037	.0373 .0019	4U 1258-61 CGS1258-613	GX304-1 XRS 12582-613	3 (R)
1H1257-010	194.39 -1.06 12 57 33 -01 03 20	307.48 61.47 193.66 4.70	195.24 -1.61 13 00 57 -01 36 45	193.40 -.84 12 53 34 -00 50 21	193.54 -.50 12 54 09 -00 29 53	195.38 -1.27 13 01 32 -01 16 17	.740	.0030 .0009	4U 1253-00	XRS12539-002	
1H1257+281	194.28 28.17 12 57 07 28 10 12	56.67 88.04 180.78 31.31	194.37 28.12 12 57 28 28 06 54	194.18 28.20 12 56 43 28 11 45	194.20 28.22 12 56 46 28 13 29	194.38 28.14 12 57 31 28 08 38	.006	.0596 .0013	2A 1257+283 1M 1257+281	4U 1257+28 XRS12574+283	A1656 Coma Cluster (R)
1H1300+443	195.08 44.37 13 00 19 44 22 12	116.11 72.88 171.14 45.69	196.26 43.57 13 05 03 43 34 18	193.56 44.81 12 54 15 44 48 46	193.86 45.16 12 55 27 45 09 21	196.57 43.91 13 06 17 43 54 28	.929	.0032 .0009			
1H1303-047	195.87 -4.71 13 03 28 -04 42 36	309.76 57.70 196.43 1.90	196.45 -5.06 13 05 46 -05 03 31	195.21 -4.55 13 00 51 -04 32 49	195.29 -4.36 13 01 09 -04 21 38	196.52 -4.87 13 06 05 -04 52 20	.269	.0104 .0016			A1651? (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H1304-497	196.09 -49.77 13 04 20 -49 45 54	305.54 12.76 217.01 -38.99	198.73 -50.96 13 14 54 -50 57 22	193.15 -48.98 12 52 36 -48 58 48	193.57 -48.52 12 54 17 -48 30 59	199.11 -50.47 13 16 25 -50 28 24	2.210	.0029 .0014		
1H1305+466	196.38 46.60 13 05 30 46 36 01	114.47 70.53 170.41 48.05	197.05 46.15 13 08 11 46 09 16	195.54 46.89 13 02 08 46 53 10	195.70 47.04 13 02 46 47 02 33	197.21 46.31 13 08 50 46 18 31	.242	.0047 .0006		A1682 (R)
1H1308-237	197.17 -23.74 13 08 40 -23 44 06	308.77 38.65 205.01 -15.17	198.14 -24.20 13 12 34 -24 11 44	196.13 -23.41 13 04 32 -23 24 27	196.20 -23.27 13 04 48 -23 16 05	198.21 -24.06 13 12 49 -24 03 20	.304	.0046 .0006		
1H1312-161	198.02 -16.13 13 12 05 -16 07 34	311.01 46.12 202.76 -7.85	198.52 -16.43 13 14 05 -16 25 54	197.44 -16.00 13 09 46 -15 59 54	197.52 -15.82 13 10 05 -15 49 10	198.60 -16.25 13 14 23 -16 15 09	.218	.0089 .0012		NGC5044 NGC5047
1H1312+393	198.03 39.36 13 12 07 39 21 26	102.56 77.11 177.45 42.61	198.90 38.81 13 15 34 38 48 28	197.00 39.69 13 07 59 39 41 35	197.16 39.90 13 08 37 39 54 00	199.06 39.01 13 16 13 39 00 43	.412	.0054 .0009		
1H1313+363	198.46 36.37 13 13 49 36 22 02	94.15 79.60 179.85 40.20	199.35 35.78 13 17 24 35 46 56	197.39 36.72 13 09 32 36 43 20	197.55 36.95 13 10 11 36 56 43	199.52 36.00 13 18 04 36 00 10	.476	.0067 .0017		
1H1315-568	198.93 -56.87 13 15 43 -56 52 22	306.66 5.54 223.81 -44.25	200.19 -57.45 13 20 45 -57 26 49	197.46 -56.50 13 09 51 -56 29 44	197.72 -56.29 13 10 51 -56 17 10	200.43 -57.23 13 21 43 -57 13 55	.445	.0122 .0027		
1H1318+560	199.65 56.00 13 18 36 56 00 15	114.48 60.90 163.36 56.66	200.68 55.34 13 22 42 55 20 22	198.27 56.43 13 13 04 56 26 02	198.59 56.66 13 14 22 56 39 37	201.01 55.56 13 24 01 55 33 35	.501	.0041 .0008		A1734
1H1319+597	199.76 59.76 13 19 02 59 45 47	116.02 57.23 158.41 59.36	200.88 58.93 13 23 31 58 55 50	198.18 60.40 13 12 43 60 23 44	198.58 60.59 13 14 20 60 35 08	201.28 59.11 13 25 06 59 06 45	.548	.0025 .0005	4U 1314+59 XRS13144+595	
1H1320+066	200.02 6.67 13 20 05 06 40 22	324.01 68.00 195.90 14.00	200.89 6.15 13 23 33 06 08 54	199.03 6.92 13 16 08 06 55 07	199.15 7.20 13 16 35 07 11 45	201.01 6.43 13 24 01 06 25 30	.600	.0038 .0010	4U 1317+06 XRS13175+067	

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H1320+144	200.13 14.41 13 20 30 14 24 33	334.03 75.08 192.81 21.16	201.03 13.93 13 24 08 13 55 41	199.14 14.73 13 16 34 14 43 44	199.21 14.89 13 16 51 14 53 12	201.11 14.09 13 24 25 14 05 07	.344	.0048 .0007		NGC5129
1H1321+692	200.28 69.25 13 21 06 69 14 43	118.77 47.89 142.03 65.06	200.67 68.65 13 22 40 68 38 50	199.33 69.76 13 17 18 69 45 42	199.86 69.84 13 19 26 69 50 32	201.18 68.72 13 24 43 68 43 25	.245	.0039 .0006		
1H1322-309	200.68 -31.00 13 22 42 -30 59 57	311.43 31.05 211.04 -20.61	201.74 -31.42 13 26 57 -31 25 12	199.60 -30.62 13 18 23 -30 37 28	199.63 -30.57 13 18 30 -30 34 11	201.77 -31.36 13 27 04 -31 21 53	.120	.0123 .0006	2A 1326-311	SC 1326-31 (R)
1H1323-428	200.79 -42.89 13 23 08 -42 53 16	309.62 19.27 216.63 -31.39	200.95 -42.97 13 23 47 -42 58 22	200.60 -42.85 13 22 23 -42 50 51	200.63 -42.80 13 22 30 -42 48 10	200.98 -42.93 13 23 54 -42 55 40	.014	.0428 .0015	2A 1322-427 4U 1322-42 XRS13223-427	NGC5128 Cen A (R)
1H1325-246	201.45 -24.68 13 25 48 -24 41 01	313.50 37.17 209.12 -14.53	202.43 -25.16 13 29 42 -25 09 40	200.39 -24.40 13 21 34 -24 23 43	200.48 -24.20 13 21 55 -24 12 00	202.51 -24.96 13 30 03 -24 57 53	.424	.0038 .0007		
1H1326-269	201.58 -27.00 13 26 18 -26 59 48	313.14 34.87 210.15 -16.62	202.58 -27.45 13 30 19 -27 27 04	200.51 -26.68 13 22 02 -26 40 42	200.58 -26.54 13 22 18 -26 32 06	202.65 -27.31 13 30 35 -27 18 24	.312	.0047 .0006		A1736 (R)
1H1326-025	201.64 -2.57 13 26 32 -02 34 05	321.27 58.70 200.96 6.05	202.55 -2.99 13 30 11 -02 59 06	200.69 -2.24 13 22 45 -02 14 28	200.73 -2.15 13 22 54 -02 09 01	202.58 -2.89 13 30 20 -02 53 39	.196	.0078 .0006		
1H1326+174	201.62 17.47 13 26 29 17 28 03	345.99 76.83 192.90 24.53	203.51 16.42 13 34 03 16 25 20	199.54 18.13 13 18 09 18 07 43	199.71 18.49 13 18 49 18 29 41	203.69 16.79 13 34 45 16 47 06	1.665	.0043 .0015		VW Com 1331+170? (R)
1H1328+113	202.06 11.38 13 28 14 11 23 04	334.81 71.52 195.93 19.12	202.96 10.91 13 31 50 10 54 30	201.08 11.69 13 24 20 11 41 19	201.16 11.86 13 24 37 11 51 29	203.04 11.08 13 32 08 11 04 39	.368	.0061 .0009	4U 1326+11 XRS13264+119	MKW 11 (R)
1H1329+514	202.41 51.47 13 29 37 51 28 24	108.08 64.74 170.78 54.31	203.20 50.98 13 32 47 50 58 40	201.41 51.80 13 25 38 51 47 52	201.60 51.96 13 26 24 51 57 48	203.39 51.14 13 33 34 51 08 25	.282	.0052 .0008		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H1332-233	203.18 -23.32 13 32 42 -23 19 19	315.80 38.19 210.09 -12.67	204.15 -23.79 13 36 35 -23 47 41	202.13 -23.04 13 28 30 -23 02 40	202.22 -22.84 13 28 52 -22 50 35	204.24 -23.59 13 36 56 -23 35 32	.436	.0030 .0005			A1757 (R)
1H1332+372	203.21 37.29 13 32 51 37 17 20	82.70 76.47 183.65 42.89	204.21 36.68 13 36 50 36 40 32	202.04 37.65 13 28 08 37 39 08	202.20 37.89 13 28 49 37 53 39	204.38 36.91 13 37 31 36 54 51	.549	.0045 .0009			HR 5110 Mkn 456 (R)
1H1334-340	203.64 -34.05 13 34 33 -34 02 49	313.64 27.61 214.80 -22.42	204.31 -34.37 13 37 13 -34 22 26	202.90 -33.87 13 31 35 -33 52 18	202.98 -33.72 13 31 54 -33 42 57	204.38 -34.22 13 37 32 -34 13 02	.216	.0085 .0011	2S 1333-34	H 1332-336	MCG-6-30-15 (R)
1H1338-604	204.69 -60.49 13 38 45 -60 29 30	309.09 1.52 230.09 -45.77	206.32 -61.11 13 45 17 -61 06 31	202.84 -60.07 13 31 22 -60 04 09	203.12 -59.86 13 32 28 -59 51 19	206.58 -60.89 13 46 20 -60 53 17	.508	.0086 .0018	4U 1344-60 1E13405-610	A1343-60	SAO252429 (R)
1H1338-144	204.59 -14.43 13 38 22 -14 25 55	320.50 46.49 208.04 -3.92	205.51 -14.91 13 42 02 -14 54 50	203.58 -14.19 13 34 19 -14 11 18	203.68 -13.95 13 34 43 -13 56 47	205.61 -14.67 13 42 25 -14 40 17	.520	.0025 .0005			A1768? (R)
1H1341+402	205.40 40.21 13 41 36 40 12 49	86.05 73.20 183.62 46.28	206.00 39.77 13 43 59 39 46 13	204.65 40.48 13 38 35 40 28 49	204.80 40.65 13 39 12 40 39 15	206.16 39.94 13 44 37 39 56 32	.263	.0065 .0009			Mkn 460 A1789?
1H1342-733	205.55 -73.33 13 42 12 -73 19 33	306.86 -11.12 242.38 -56.06	201.84 -72.10 13 27 20 -72 06 02	210.56 -74.20 14 02 13 -74 11 58	209.82 -74.48 13 59 16 -74 28 30	201.06 -72.34 13 24 14 -72 20 39	1.115	.0031 .0008			
1H1344-326	206.07 -32.66 13 44 17 -32 39 33	316.23 28.52 216.24 -20.36	207.16 -33.07 13 48 38 -33 04 05	204.96 -32.31 13 39 51 -32 18 20	205.00 -32.24 13 39 58 -32 14 28	207.19 -33.00 13 48 45 -33 00 11	.140	.0224 .0012	2A 1344-325 1M 1347-32	4U 1345-32 XRS13448-325	SC 1344-32 (R)
1H1345-300	206.31 -30.04 13 45 15 -30 02 23	317.21 31.01 215.39 -17.85	206.74 -30.26 13 46 56 -30 15 30	205.84 -29.95 13 43 20 -29 56 59	205.89 -29.82 13 43 34 -29 49 11	206.79 -30.13 13 47 10 -30 07 40	.117	.0126 .0012	2A 1347-300	XRS13471-300	IC4329A (R)
1H1348-633	207.20 -63.35 13 48 48 -63 20 53	309.65 -1.52 233.73 -47.59	208.98 -63.98 13 55 55 -63 58 39	205.17 -62.92 13 40 41 -62 55 27	205.50 -62.70 13 42 00 -62 41 50	209.29 -63.74 13 57 08 -63 44 31	.544	.0107 .0025	1M 1353-64		

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY	NON X-RAY
1H1348+267	207.00 26.74 13 48 00 26 44 38	33.53 76.85 193.63 35.04	207.31 26.55 13 49 13 26 32 54	206.64 26.84 13 46 34 26 50 30	206.70 26.94 13 46 47 26 56 19	207.36 26.65 13 49 26 26 38 42	.071	.0131 .0009	2A 1346+266 4U 1348+25 XRS13468-300	A1795 (R)
1H1350+696	207.72 69.62 13 50 52 69 37 02	115.20 46.84 143.96 67.59	207.92 69.32 13 51 39 69 19 01	207.24 69.88 13 48 58 69 52 41	207.52 69.92 13 50 04 69 55 03	208.18 69.36 13 52 44 69 21 20	.062	.0061 .0004	2A 1348+700 XRS13481+700	Mkn 279 (R)
1H1352-105	208.15 -10.55 13 52 35 -10 33 13	327.25 49.04 209.89 .94	209.31 -11.13 13 57 13 -11 07 47	206.89 -10.24 13 47 33 -10 14 13	206.99 -9.97 13 47 57 -09 58 24	209.41 -10.87 13 57 37 -10 51 56	.716	.0047 .0013		
1H1356+566	209.15 56.63 13 56 37 56 37 55	105.24 58.38 169.79 60.79	210.04 55.97 14 00 08 55 58 19	207.92 57.10 13 51 41 57 06 08	208.24 57.29 13 52 57 57 17 07	210.36 56.15 14 01 25 56 08 59	.409	.0036 .0007		NGC5443
1H1357+033	209.33 3.38 13 57 19 03 22 48	340.17 60.96 206.04 14.40	210.20 2.84 14 00 47 02 50 19	208.33 3.55 13 53 18 03 33 17	208.47 3.92 13 53 51 03 55 14	210.34 3.20 14 01 20 03 12 15	.784	.0021 .0005		A1835
1H1358+146	209.74 14.69 13 58 56 14 41 22	358.54 69.36 202.00 25.06	210.62 14.14 14 02 29 14 08 34	208.71 14.91 13 54 50 14 54 18	208.85 15.23 13 55 23 15 13 58	210.76 14.47 14 03 02 14 28 10	.708	.0023 .0007		
1H1359-645	209.84 -64.57 13 59 20 -64 33 55	310.47 -2.99 236.15 -48.03	208.59 -64.16 13 54 22 -64 09 42	211.26 -64.85 14 05 02 -64 51 15	211.12 -64.96 14 04 28 -64 57 29	208.45 -64.26 13 53 46 -64 15 47	.161	.0076 .0008	1M 1353-64 XRS13539-645	(R)
1H1359-421	209.99 -42.12 13 59 58 -42 07 28	316.79 18.57 223.38 -27.89	211.15 -42.67 14 04 36 -42 39 58	208.67 -41.88 13 54 39 -41 53 04	208.85 -41.57 13 55 24 -41 34 17	211.33 -42.35 14 05 18 -42 20 57	.684	.0039 .0011		PKS1355-416 (R)
1H1400-478	210.24 -47.82 14 00 56 -47 48 56	315.29 13.06 226.20 -33.04	211.22 -48.20 14 04 53 -48 12 06	209.15 -47.58 13 56 37 -47 34 51	209.27 -47.42 13 57 03 -47 25 16	211.33 -48.04 14 05 18 -48 02 24	.267	.0093 .0013		
1H1404-450	211.03 -45.05 14 04 07 -45 03 13	316.66 15.55 225.49 -30.29	212.17 -45.74 14 08 40 -45 44 09	209.55 -44.94 13 58 13 -44 56 32	209.92 -44.36 13 59 41 -44 21 37	212.51 -45.15 14 10 02 -45 08 45	1.276	.0025 .0013	1M 1402-45 E1404-451	(R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H1405+230	211.36 23.08 14 05 26 23 04 44	23.20 72.20 199.83 33.38	212.31 22.58 14 09 14 22 34 57	210.32 23.40 14 01 17 23 23 44	210.41 23.57 14 01 37 23 34 11	212.39 22.76 14 09 34 22 45 20	.380	.0043 .0007			
1H1408-031	212.19 -3.13 14 08 46 -03 08 04	338.33 53.92 211.10 9.29	213.11 -3.56 14 12 25 -03 33 25	211.22 -2.87 14 04 53 -02 52 28	211.28 -2.71 14 05 07 -02 42 40	213.17 -3.39 14 12 39 -03 23 36	.348	.0037 .0005	2A 1410-029 1M 1410-30	4U 1410-03 XRS14109-030	NGC5506 (R)
1H1409-267	212.26 -26.75 14 09 02 -26 45 12	324.25 32.53 219.23 -12.90	213.27 -27.21 14 13 05 -27 12 23	211.17 -26.52 14 04 40 -26 30 56	211.26 -26.29 14 05 02 -26 17 34	213.36 -26.98 14 13 26 -26 58 57	.476	.0043 .0009			
1H1410-468	212.60 -46.82 14 10 22 -46 49 24	317.16 13.53 227.46 -31.49	213.84 -47.38 14 15 22 -47 23 01	211.15 -46.60 14 04 35 -46 35 42	211.37 -46.25 14 05 29 -46 15 00	214.05 -47.03 14 16 12 -47 02 01	.756	.0045 .0015			
1H1411+094	212.81 9.42 14 11 15 09 25 11	354.08 63.55 207.16 21.28	213.44 9.08 14 13 44 09 04 45	212.12 9.58 14 08 28 09 34 34	212.19 9.76 14 08 45 09 45 33	213.51 9.26 14 14 01 09 15 43	.273	.0065 .0009			
1H1415+255	213.77 25.53 14 15 03 25 31 54	32.37 70.67 201.04 36.51	214.09 25.35 14 16 21 25 20 50	213.40 25.63 14 13 35 25 37 55	213.44 25.72 14 13 45 25 42 57	214.13 25.43 14 16 31 25 25 50	.063	.0127 .0008	2A 1415+255 XRS14156+255	4U 1414+25	NGC5548 (R)
1H1419-774	214.95 -77.43 14 19 47 -77 25 36	308.01 -15.72 250.46 -57.76	212.91 -76.92 14 11 38 -76 55 14	217.76 -77.74 14 31 01 -77 44 13	217.15 -77.92 14 28 36 -77 54 58	212.28 -77.09 14 09 06 -77 05 19	.295	.0047 .0007			(R)
1H1419+584	214.91 58.41 14 19 38 58 24 48	102.29 55.20 171.54 64.26	216.04 57.49 14 24 09 57 29 24	213.31 59.14 14 13 13 59 08 08	213.72 59.33 14 14 52 59 19 34	216.45 57.67 14 25 47 57 40 18	.620	.0038 .0007			
1H1420+481	215.22 48.17 14 20 52 48 10 13	88.52 62.63 185.91 56.79	216.34 47.51 14 25 21 47 30 28	213.93 48.69 14 15 42 48 41 35	214.07 48.82 14 16 16 48 49 18	216.48 47.63 14 25 55 47 38 00	.316	.0051 .0007	2A 1418+485	XRS14186+485	A1904? (R)
1H1421-808	215.28 -80.83 14 21 06 -80 49 32	306.78 -18.91 254.75 -60.35	211.77 -79.98 14 07 05 -79 59 02	221.21 -81.27 14 44 50 -81 16 10	219.46 -81.63 14 37 51 -81 37 37	209.93 -80.29 13 59 44 -80 17 40	.884	.0020 .0009	4U 1450-80	XRS14506-805	

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY	NON X-RAY
1H1422+273	215.61 27.31 14 22 26 27 18 43	38.19 69.28 202.02 38.82	216.59 26.81 14 26 21 26 48 48	214.54 27.64 14 18 10 27 38 35	214.62 27.80 14 18 29 27 48 14	216.67 26.97 14 26 41 26 58 23	.352	.0038 .0005		A1903 (R)
1H1424+350	216.24 35.10 14 24 57 35 05 47	59.58 68.16 198.04 46.05	217.13 34.60 14 28 30 34 35 45	215.21 35.38 14 20 50 35 22 55	215.34 35.59 14 21 21 35 35 25	217.26 34.80 14 29 01 34 48 07	.407	.0051 .0012		
1H1426+120	216.68 12.05 14 26 43 12 02 47	3.97 62.45 210.01 25.08	217.60 11.61 14 30 24 11 36 24	215.69 12.31 14 22 45 12 18 40	215.76 12.48 14 23 01 12 29 00	217.67 11.78 14 30 40 11 46 43	.368	.0041 .0006		Fairall 14252+12
1H1427+013	216.96 1.36 14 27 51 01 21 49	349.49 54.81 214.16 15.13	217.87 .91 14 31 27 00 54 52	215.98 1.57 14 23 54 01 34 23	216.06 1.81 14 24 14 01 48 46	217.95 1.15 14 31 47 01 09 15	.508	.0028 .0006		
1H1428-714	217.04 -71.42 14 28 08 -71 25 20	310.80 -10.34 245.31 -52.49	214.67 -70.87 14 18 41 -70 51 55	219.95 -71.62 14 39 47 -71 37 15	219.53 -71.95 14 38 08 -71 56 52	214.19 -71.18 14 16 45 -71 10 47	.653	.0038 .0009		
1H1429+370	217.45 37.02 14 29 48 37 01 28	63.74 66.70 197.99 48.21	218.44 36.38 14 33 44 36 22 57	216.23 37.33 14 24 55 37 19 42	216.45 37.66 14 25 48 37 39 28	218.66 36.71 14 34 38 36 42 28	.744	.0037 .0012		NGC5684
1H1430+423	217.51 42.36 14 30 03 42 21 19	75.66 64.61 193.87 52.86	217.93 42.07 14 31 44 42 04 13	216.99 42.53 14 27 58 42 31 47	217.09 42.64 14 28 21 42 38 18	218.03 42.18 14 32 07 42 10 42	.108	.0085 .0008		
1H1433-006	218.38 -.68 14 33 32 -00 40 56	349.11 52.33 216.23 13.66	219.30 -1.09 14 37 12 -01 05 31	217.41 -.45 14 29 37 -00 27 00	217.47 -.27 14 29 51 -00 16 20	219.36 -.91 14 37 26 -00 54 50	.376	.0065 .0010		
1H1434-567	218.71 -56.72 14 34 50 -56 43 28	317.17 2.94 236.53 -39.09	217.20 -56.15 14 28 47 -56 08 54	220.53 -56.94 14 42 06 -56 56 40	220.27 -57.28 14 41 05 -57 16 53	216.92 -56.48 14 27 40 -56 28 42	.728	.0020 .0006	4U 1436-56 XRS14365-566	NGC5662
1H1438-623	219.52 -62.33 14 38 04 -62 19 35	315.30 -2.35 240.12 -44.02	219.30 -62.26 14 37 12 -62 15 27	219.77 -62.36 14 39 04 -62 21 32	219.73 -62.40 14 38 56 -62 23 43	219.27 -62.29 14 37 03 -62 17 37	.010	.0279 .0007	4U 1425-61? 1M 1418-61 XRS14185-614	MSH14-63 (R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H1439+393	219.76 39.35 14 39 02 39 20 46	67.69 64.25 198.72 51.12	220.26 39.01 14 41 02 39 00 25	219.13 39.52 14 36 31 39 31 01	219.25 39.68 14 37 00 39 41 00	220.39 39.17 14 41 33 39 10 20	.195	.0092 .0012			A1947 (R)
1H1444-553	221.10 -55.31 14 44 24 -55 18 28	318.98 3.68 237.39 -37.26	219.54 -54.86 14 38 09 -54 51 19	222.79 -55.61 14 51 09 -55 36 26	222.70 -55.74 14 50 48 -55 44 24	219.44 -54.99 14 37 45 -54 59 08	.284	.0038 .0004	4U 1446-55	XRS14468-554	
1H1448+415	222.13 41.60 14 48 32 41 35 45	70.99 61.79 199.48 53.97	223.16 40.94 14 52 38 40 56 14	220.85 41.94 14 43 24 41 56 17	221.08 42.24 14 44 20 42 14 41	223.40 41.24 14 53 36 41 14 22	.704	.0037 .0011	4U 1444+43	XRS14446+430	 (R)
1H1449+316	222.27 31.64 14 49 04 31 38 31	49.54 63.62 206.68 45.16	223.17 31.15 14 52 41 31 08 42	221.24 31.91 14 44 56 31 54 21	221.36 32.13 14 45 25 32 07 55	223.30 31.37 14 53 11 31 22 10	.451	.0041 .0007			A1968? (R)
1H1450+190	222.54 19.07 14 50 09 19 04 23	22.84 61.03 213.23 33.64	223.48 18.60 14 53 54 18 35 52	221.50 19.30 14 45 59 19 18 05	221.59 19.54 14 46 22 19 32 36	223.58 18.84 14 54 18 18 50 19	.516	.0031 .0007	4U 1455+19	XRS14550+191	A1991 (R)
1H1456-826	224.10 -82.62 14 56 25 -82 37 10	307.17 -21.07 259.05 -60.96	218.60 -81.83 14 34 24 -81 49 59	232.10 -83.04 15 28 23 -83 02 26	230.83 -83.32 15 23 19 -83 19 23	217.09 -82.07 14 28 20 -82 04 21	.685	.0027 .0006			
1H1457+214	224.45 21.43 14 57 46 21 25 52	28.60 60.17 214.26 36.48	225.41 20.99 15 01 39 20 59 24	223.40 21.70 14 53 36 21 41 45	223.47 21.87 14 53 53 21 52 00	225.48 21.16 15 01 55 21 09 35	.364	.0039 .0006	4U 1456+22	XRS14566+255	
1H1458-416	224.56 -41.69 14 58 14 -41 41 07	327.38 14.73 234.48 -23.68	225.82 -42.03 15 03 17 -42 01 47	223.27 -41.41 14 53 05 -41 24 37	223.31 -41.33 14 53 14 -41 19 37	225.86 -41.95 15 03 25 -41 56 44	.176	.0159 .0012	4U 1458-41	XRS14580-415	SN 1006 (R)
1H1504+035	226.09 3.59 15 04 22 03 35 39	2.62 49.89 222.52 20.10	227.02 3.20 15 08 04 03 12 09	225.11 3.79 15 00 25 03 47 24	225.16 3.99 15 00 39 03 59 06	227.08 3.40 15 08 19 03 23 51	.408	.0085 .0018			NGC5864?
1H1504+473	226.07 47.37 15 04 15 47 22 17	79.29 56.94 198.22 60.35	227.15 46.68 15 08 36 46 41 02	224.71 47.80 14 58 49 47 47 49	224.95 48.05 14 59 48 48 02 55	227.40 46.93 15 09 36 46 55 48	.600	.0064 .0020			A2024 A2018? 44 Boo? (R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H1508+060	227.18 6.06 15 08 43 06 03 49	6.70 50.57 222.86 22.78	227.59 5.87 15 10 21 05 52 20	226.74 6.13 15 06 56 06 07 36	226.77 6.26 15 07 05 06 15 18	227.63 6.00 15 10 31 06 00 02	.119	.0165 .0014	2A 1508+062 XRS15087+062	1M 1514+068	A2029 (R)
1H1510+335	227.63 33.56 15 10 30 33 33 50	53.27 59.05 211.55 48.78	228.74 32.91 15 14 58 32 54 52	226.33 33.91 15 05 18 33 54 20	226.50 34.20 15 05 59 34 12 11	228.92 33.21 15 15 41 33 12 31	.742	.0026 .0006			A2034 (R)
1H1511-589	227.80 -58.93 15 11 12 -58 55 40	320.47 -1.22 243.38 -39.32	226.02 -58.55 15 04 04 -58 33 00	229.65 -59.24 15 18 36 -59 14 25	229.63 -59.28 15 18 30 -59 16 49	225.99 -58.59 15 03 57 -58 35 21	.084	.0211 .0006	4U 1510-59 XRS15101-590	1M 1510-59	MSH15-52 (R)
1H1513-400	228.42 -40.05 15 13 41 -40 03 16	330.83 14.62 236.97 -21.26	227.82 -39.81 15 11 17 -39 48 40	229.10 -40.12 15 16 24 -40 07 07	229.03 -40.29 15 16 07 -40 17 41	227.75 -39.99 15 10 59 -39 59 11	.189	.0058 .0006			
1H1514+072	228.67 7.25 15 14 40 07 15 17	9.57 50.07 224.02 24.35	229.12 7.02 15 16 28 07 01 15	228.17 7.33 15 12 40 07 19 36	228.22 7.49 15 12 53 07 29 18	229.17 7.18 15 16 40 07 10 57	.168	.0152 .0017	H 1513+070	1M 1514+06	A2052 3C317 (R)
1H1515+660	228.86 66.02 15 15 25 66 01 29	102.87 45.24 162.79 73.75	229.01 65.57 15 16 02 65 33 59	228.28 66.42 15 13 07 66 25 28	228.70 66.48 15 14 48 66 28 59	229.42 65.62 15 17 40 65 37 22	.162	.0046 .0006			
1H1516-569	229.20 -56.99 15 16 48 -56 59 20	322.12 .04 243.44 -37.25	229.20 -56.99 15 16 48 -56 59 20	229.20 -56.99 15 16 48 -56 59 20	229.20 -56.99 15 16 48 -56 59 20	229.20 -56.99 15 16 48 -56 59 20	.000	.1136 .0016	2S 1516-569 1M 1516-56 CGS1516-569	4U 1516-56 Cir X-1 XRS15168-569	BR Cir (R)
1H1518+282	229.53 28.23 15 18 08 28 13 56	43.34 57.14 216.73 44.48	230.36 27.84 15 21 25 27 50 36	228.62 28.41 15 14 29 28 24 42	228.71 28.62 15 14 49 28 36 59	230.44 28.05 15 21 46 28 02 49	.356	.0078 .0012	2A 1518+274 XRS15212+285	4U 1521+28?	A2065 (R)
1H1521-465	230.47 -46.58 15 21 52 -46 34 52	328.45 8.35 240.57 -27.09	229.11 -46.23 15 16 26 -46 13 48	231.90 -46.80 15 27 34 -46 47 54	231.85 -46.92 15 27 23 -46 54 57	229.06 -46.35 15 16 13 -46 20 47	.244	.0040 .0004			
1H1521+083	230.32 8.39 15 21 17 08 23 06	12.43 49.34 225.40 25.90	231.27 8.02 15 25 04 08 01 29	229.33 8.59 15 17 18 08 35 22	229.37 8.74 15 17 29 08 44 35	231.31 8.18 15 25 15 08 10 41	.320	.0078 .0010	2A 1519+082	XRS15190+082	A2063 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY		NON X-RAY
1H1538-522	234.66 -52.23 15 38 38 -52 13 38	327.42 2.16 245.37 -31.76	234.66 -52.23 15 38 38 -52 13 38	234.66 -52.23 15 38 38 -52 13 38	234.66 -52.23 15 38 38 -52 13 38	234.66 -52.23 15 38 38 -52 13 38	.000	.0182 .0011	2S 1538-52 1M 1538-52 XRS15386-522	4U 1538-52 CGS1538-522	QV Nor (R)
1H1538-182	234.54 -18.24 15 38 08 -18 14 07	349.75 28.67 236.55 1.19	233.53 -17.92 15 34 08 -17 55 02	235.58 -18.38 15 42 19 -18 22 44	235.54 -18.55 15 42 09 -18 32 54	233.49 -18.09 15 33 57 -18 05 11	.348	.0038 .0005			
1H1538+760	234.68 76.04 15 38 44 76 02 10	111.20 37.21 124.17 75.62	232.18 75.23 15 28 43 75 13 58	235.81 77.02 15 43 13 77 01 02	237.48 76.81 15 49 55 76 48 38	233.71 75.05 15 34 49 75 03 02	.857	.0020 .0005			A2127
1H1540+338	235.20 33.87 15 40 47 33 51 54	53.81 52.75 220.43 51.49	236.01 33.46 15 44 02 33 27 20	234.28 34.05 15 37 06 34 03 15	234.38 34.27 15 37 31 34 16 08	236.12 33.67 15 44 28 33 40 08	.362	.0079 .0013			
1H1543-624	235.89 -62.41 15 43 33 -62 24 51	321.76 -6.34 249.76 -41.35	235.89 -62.41 15 43 33 -62 24 51	235.89 -62.41 15 43 33 -62 24 51	235.89 -62.41 15 43 33 -62 24 51	235.89 -62.41 15 43 33 -62 24 51	.000	.1377 .0015	2S 1543-624 1M 1543-62 CGS1543-624	4U 1543-62 Nor XR-2 XRS15435-624	 (R)
1H1544+360	236.04 36.02 15 44 09 36 01 14	57.36 52.09 220.17 53.75	236.74 35.69 15 46 56 35 41 14	235.25 36.18 15 40 59 36 10 52	235.33 36.35 15 41 19 36 21 00	236.82 35.86 15 47 17 35 51 18	.237	.0081 .0011			A2124 (R)
1H1545+524	236.34 52.49 15 45 20 52 29 30	82.90 48.88 203.86 68.34	236.83 51.97 15 47 20 51 58 29	235.51 52.82 15 42 02 52 49 17	235.83 53.01 15 43 18 53 00 23	237.15 52.16 15 48 36 52 09 22	.311	.0038 .0005			
1H1555-552	238.99 -55.24 15 55 57 -55 14 06	327.55 -1.78 249.25 -34.00	237.32 -54.94 15 49 16 -54 56 33	240.71 -55.44 16 02 51 -55 26 11	240.69 -55.50 16 02 44 -55 30 17	237.29 -55.01 15 49 08 -55 00 36	.140	.0078 .0004	1M 1553-54 XRS15539-542	CGS1553-542	 (R)
1H1555-325	238.76 -32.54 15 55 02 -32 32 22	342.40 15.52 243.46 -11.93	237.64 -32.21 15 50 32 -32 12 34	239.95 -32.63 15 59 48 -32 37 50	239.90 -32.86 15 59 34 -32 51 35	237.57 -32.44 15 50 17 -32 26 15	.468	.0032 .0006			
1H1556-605	239.20 -60.60 15 56 47 -60 35 45	324.14 -5.93 251.08 -39.16	239.20 -60.60 15 56 47 -60 35 45	239.20 -60.60 15 56 47 -60 35 45	239.20 -60.60 15 56 47 -60 35 45	239.20 -60.60 15 56 47 -60 35 45	.000	.0446 .0021	2S 1556-605 1M 1556-60 XRS15567-605	4U 1556-60 CGS1556-605	 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H1521+308	230.34 30.81 15 21 22 30 48 18	48.16 56.70 216.32 47.13	231.06 30.46 15 24 13 30 27 45	229.54 30.94 15 18 09 30 56 12	229.63 31.14 15 18 30 31 08 38	231.14 30.67 15 24 34 30 40 07	.305	.0085 .0012		A2061 (R)
1H1522-552	230.64 -55.21 15 22 33 -55 12 49	323.75 1.09 243.68 -35.31	229.02 -54.83 15 16 04 -54 50 02	232.35 -55.45 15 29 23 -55 27 04	232.29 -55.57 15 29 08 -55 34 18	228.95 -54.95 15 15 47 -54 57 09	.252	.0046 .0004		
1H1525-680	231.42 -68.07 15 25 41 -68 04 29	316.85 -9.78 249.92 -47.30	229.13 -67.54 15 16 30 -67 32 07	234.11 -68.29 15 36 27 -68 17 13	233.83 -68.58 15 35 18 -68 34 51	228.79 -67.82 15 15 08 -67 49 10	.630	.0030 .0006		
1H1530-754	232.62 -75.50 15 30 28 -75 29 56	312.71 -16.03 255.01 -54.00	229.27 -74.97 15 17 04 -74 57 57	236.51 -75.78 15 46 02 -75 46 52	236.20 -75.98 15 44 48 -75 58 53	228.88 -75.16 15 15 32 -75 09 20	.428	.0043 .0008		
1H1530+585	232.67 58.58 15 30 40 58 34 49	92.55 48.17 187.35 71.41	233.15 58.14 15 32 35 58 08 18	231.92 58.91 15 27 40 58 54 19	232.18 59.02 15 28 43 59 01 14	233.41 58.25 15 33 37 58 15 04	.178	.0042 .0005		Mkn 290? (R)
1H1530+629	232.72 62.97 15 30 53 62 58 24	97.97 45.79 175.28 73.97	233.30 62.22 15 33 11 62 12 56	231.65 63.61 15 26 34 63 36 49	232.12 63.73 15 28 27 63 43 42	233.75 62.32 15 35 00 62 19 29	.378	.0033 .0006		
1H1532-662	233.22 -66.23 15 32 53 -66 13 46	318.51 -8.68 249.92 -45.33	230.97 -65.82 15 23 53 -65 49 07	235.63 -66.49 15 42 31 -66 29 40	235.54 -66.61 15 42 09 -66 36 25	230.87 -65.93 15 23 27 -65 55 41	.236	.0049 .0005		
1H1535-445	233.86 -44.58 15 35 25 -44 34 46	331.58 8.62 242.50 -24.53	232.53 -44.26 15 30 06 -44 15 31	235.24 -44.77 15 40 57 -44 46 26	235.20 -44.88 15 40 47 -44 53 05	232.48 -44.37 15 29 56 -44 22 06	.228	.0048 .0005	4U 1530-44 XRS15307-443	
1H1535+685	233.89 68.51 15 35 32 68 30 45	103.83 42.16 155.42 76.27	233.94 67.87 15 35 44 67 52 02	232.95 69.06 15 31 47 69 03 41	233.83 69.16 15 35 20 69 09 27	234.78 67.96 15 39 07 67 57 30	.412	.0028 .0005		
1H1536+840	234.10 84.04 15 36 23 84 02 40	118.33 31.76 100.81 71.07	226.86 83.44 15 07 25 83 26 17	240.78 84.80 16 03 07 84 47 54	242.80 84.54 16 11 11 84 32 11	228.96 83.23 15 15 50 83 13 42	.632	.0024 .0006		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H1736+173	264.16 17.37 17 36 37 17 22 23	41.07 23.61 262.64 40.67	263.51 17.50 17 34 02 17 29 53	264.81 17.43 17 39 14 17 25 31	264.80 17.25 17 39 11 17 14 44	263.50 17.32 17 34 00 17 19 06	.223	.0042 .0005			
1H1739-126	264.75 -12.66 17 39 00 -12 39 35	13.50 9.18 264.79 10.69	264.25 -12.57 17 37 00 -12 33 56	265.26 -12.60 17 41 02 -12 36 11	265.25 -12.75 17 41 00 -12 45 11	264.25 -12.72 17 36 59 -12 42 56	.147	.0064 .0006	4U 1807-10 XRS18079-108	H 1734-127	
1H1739+744	264.93 74.42 17 39 42 74 25 21	105.61 30.95 99.78 81.96	264.04 74.64 17 36 09 74 38 34	266.07 74.52 17 44 16 74 31 27	265.79 74.20 17 43 08 74 11 56	263.80 74.32 17 35 11 74 18 55	.184	.0027 .0004			
1H1740+329	265.13 32.99 17 40 31 32 59 36	57.77 28.02 262.62 56.31	264.33 33.15 17 37 19 33 08 44	265.95 33.04 17 43 47 33 02 07	265.93 32.84 17 43 42 32 50 10	264.31 32.95 17 37 15 32 56 46	.272	.0033 .0005			1742+33? (R)
1H1741-322	265.44 -32.21 17 41 46 -32 12 25	357.13 -1.61 266.10 -8.82	265.44 -32.21 17 41 46 -32 12 25	265.44 -32.21 17 41 46 -32 12 25	265.44 -32.21 17 41 46 -32 12 25	265.44 -32.21 17 41 46 -32 12 25	.000	1.4930 .0296	H 1743-322		 (R)
1H1741+586	265.46 58.62 17 41 51 58 37 11	87.10 31.76 253.22 81.80	264.98 58.83 17 39 55 58 49 35	266.08 58.58 17 44 19 58 34 54	265.94 58.41 17 43 45 58 24 40	264.84 58.65 17 39 22 58 39 17	.116	.0028 .0003			
1H1744-293	266.24 -29.38 17 44 57 -29 22 58	359.89 -.71 266.71 -5.98	266.11 -29.37 17 44 27 -29 22 11	266.37 -29.38 17 45 27 -29 22 32	266.37 -29.40 17 45 27 -29 23 44	266.11 -29.39 17 44 27 -29 23 23	.004	.2582 .0056	2S 1742-267 MXB1743-29 XRS17436-285	4U 1743-29 CGS1743-288	GCX region (R)
1H1744-265	266.21 -26.55 17 44 49 -26 32 49	2.29 .79 266.60 -3.15	266.21 -26.55 17 44 49 -26 32 49	266.21 -26.55 17 44 49 -26 32 49	266.21 -26.55 17 44 49 -26 32 49	266.21 -26.55 17 44 49 -26 32 49	.000	.8754 .0155	2S 1744-265 1M 1744-26 CGS1744-26	4U 1744-26 GX3+1 Sgr XR-1	 (R)
1H1744+007	266.19 .79 17 44 45 00 47 40	26.18 14.59 265.82 24.18	265.19 .89 17 40 45 00 53 28	267.19 .83 17 48 45 00 49 59	267.19 .70 17 48 44 00 41 50	265.19 .76 17 40 44 00 45 19	.272	.0034 .0004			
1H1746-370	266.70 -37.04 17 46 47 -37 02 23	353.53 -5.00 267.29 -13.63	266.70 -37.04 17 46 47 -37 02 23	266.70 -37.04 17 46 47 -37 02 23	266.70 -37.04 17 46 47 -37 02 23	266.70 -37.04 17 46 47 -37 02 23	.000	.1271 .0024	2S 1746-370 1M 1746-37	4U 1746-37 XRS17468-370	NGC6441 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY		NON X-RAY
1H1746+475	266.55 47.53 17 46 11 47 31 34	74.28 30.11 262.87 70.89	265.62 47.65 17 42 27 47 38 42	267.49 47.60 17 49 58 47 35 58	267.48 47.40 17 49 54 47 23 59	265.61 47.45 17 42 25 47 26 42	.253	.0021 .0003			
1H1747+675	266.77 67.52 17 47 05 67 30 59	97.52 31.05 141.13 88.42	266.18 67.42 17 44 43 67 25 25	267.00 67.74 17 48 00 67 44 41	267.37 67.61 17 49 28 67 36 24	266.55 67.29 17 46 11 67 17 15	.088	.0023 .0002			
1H1748+685	267.23 68.51 17 48 54 68 30 42	98.67 30.83 117.16 87.77	263.19 68.98 17 32 45 68 58 46	268.08 70.02 17 52 18 70 01 02	271.08 67.95 18 04 19 67 57 04	266.48 67.00 17 45 55 67 00 09	4.660	.0030 .0013			Mkn 507? (R)
1H1752+081	268.02 8.19 17 52 05 08 11 16	33.87 16.35 267.70 31.62	267.43 8.29 17 49 43 08 17 09	268.62 8.27 17 54 28 08 16 15	268.62 8.09 17 54 28 08 05 19	267.43 8.10 17 49 42 08 06 14	.214	.0056 .0008			
1H1752+289	268.21 28.98 17 52 49 28 58 58	54.40 24.29 267.43 52.41	266.88 29.17 17 47 31 29 10 16	269.55 29.05 17 58 11 29 02 56	269.53 28.78 17 58 06 28 46 53	266.87 28.90 17 47 28 28 54 13	.625	.0038 .0010	4U 1745+29	XRS17456+292	
1H1754-338	268.74 -33.80 17 54 56 -33 48 04	357.17 -4.80 268.93 -10.36	268.59 -33.79 17 54 21 -33 47 23	268.88 -33.79 17 55 31 -33 47 32	268.88 -33.81 17 55 31 -33 48 44	268.59 -33.81 17 54 21 -33 48 35	.005	.3431 .0064	2S 1755-338 1M 1755-33 CGS1755-338	4U 1755-33 Sco XR-6 XRS17553-338	(R)
1H1758-482	269.63 -48.27 17 58 30 -48 16 28	344.68 -12.38 269.73 -24.83	268.13 -48.18 17 52 30 -48 10 30	271.13 -48.18 18 04 30 -48 10 50	271.13 -48.35 18 04 31 -48 21 17	268.12 -48.35 17 52 28 -48 20 56	.348	.0053 .0008			
1H1758-250	269.51 -25.08 17 58 03 -25 04 38	5.08 -1.02 269.56 -1.63	269.51 -25.08 17 58 03 -25 04 38	269.51 -25.08 17 58 03 -25 04 38	269.51 -25.08 17 58 03 -25 04 38	269.51 -25.08 17 58 03 -25 04 38	.000	2.2860 .0954	2S 1758-250 1M 1758-25 CGS1758-250	4U 1758-25 GX5-1 XRS17580-250	(R)
1H1758-205	269.64 -20.53 17 58 33 -20 31 56	9.07 1.15 269.66 2.91	269.64 -20.53 17 58 33 -20 31 56	269.64 -20.53 17 58 33 -20 31 56	269.64 -20.53 17 58 33 -20 31 56	269.64 -20.53 17 58 33 -20 31 56	.000	1.5230 .0243	2S 1758-205 1M 1758-20 CGS1758-205	4U 1758-20 GX9+1 Sgr XR-3	(R)
1H1759+099	269.79 9.92 17 59 09 09 55 16	36.28 15.54 269.75 33.37	268.77 10.06 17 55 05 10 03 34	270.81 10.06 18 03 13 10 03 21	270.80 9.78 18 03 13 09 46 48	268.78 9.78 17 55 06 09 47 01	.552	.0035 .0008			

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H1615+655	243.79 65.60 16 15 09 65 35 42	97.89 40.33 173.05 79.41	243.89 65.14 16 15 32 65 08 41	243.29 66.00 16 13 08 65 59 50	243.69 66.05 16 14 46 66 02 44	244.28 65.19 16 17 07 65 11 29	.153	.0038 .0005			
1H1617-155	244.27 -15.52 16 17 04 -15 31 15	359.09 23.78 245.14 5.73	244.27 -15.52 16 17 04 -15 31 15	244.27 -15.52 16 17 04 -15 31 15	244.27 -15.52 16 17 04 -15 31 15	244.27 -15.52 16 17 04 -15 31 15	.000	37.2000 .7372	2A 1616-155 1M 1617-15 CGS1617-155	4U 1617-15 Sco X-1 XRS16170-155	V818 Sco (R)
1H1622-751	245.56 -75.14 16 22 14 -75 08 18	315.49 -17.98 259.95 -52.55	243.76 -74.96 16 15 02 -74 57 41	247.50 -75.14 16 29 58 -75 08 34	247.40 -75.30 16 29 35 -75 18 04	243.63 -75.12 16 14 30 -75 07 03	.157	.0057 .0005			
1H1624-490	246.08 -49.09 16 24 19 -49 05 06	334.92 -.26 252.65 -27.07	246.08 -49.09 16 24 19 -49 05 06	246.08 -49.09 16 24 19 -49 05 06	246.08 -49.09 16 24 19 -49 05 06	246.08 -49.09 16 24 19 -49 05 06	.000	.0916 .0016	2S 1624-490 1M 1624-49 CGS1624-490	4U 1626-49 Nor X-1	G334.9-0.3 (R)
1H1625-333	246.31 -33.30 16 25 13 -33 18 03	346.49 10.54 249.96 -11.49	245.87 -33.17 16 23 28 -33 10 17	246.77 -33.29 16 27 04 -33 17 25	246.74 -33.43 16 26 58 -33 25 44	245.84 -33.31 16 23 22 -33 18 35	.106	.0081 .0008	4U 1625-33	XRS16256-333	
1H1626-245	246.60 -24.55 16 26 24 -24 32 58	353.34 16.23 248.80 -2.81	244.63 -24.18 16 18 31 -24 10 49	248.60 -24.75 16 34 24 -24 45 16	248.58 -24.89 16 34 19 -24 53 35	244.61 -24.32 16 18 25 -24 19 06	.512	.0020 .0012	4U 1621-23	XRS16212-234	Rho Oph region (R)
1H1626+058	246.64 5.82 16 26 32 05 49 20	20.69 34.12 243.68 27.16	245.66 6.06 16 22 38 06 03 35	247.64 5.71 16 30 32 05 42 18	247.62 5.58 16 30 27 05 34 59	245.64 5.94 16 22 32 05 56 16	.248	.0045 .0005	2A 1630+057 XRS16364+052	4U 1636+05	A2204 (R)
1H1627-673	246.81 -67.35 16 27 13 -67 21 14	321.79 -13.09 257.64 -44.90	246.81 -67.35 16 27 13 -67 21 14	246.81 -67.35 16 27 13 -67 21 14	246.81 -67.35 16 27 13 -67 21 14	246.81 -67.35 16 27 13 -67 21 14	.000	.0789 .0009	2S 1627-673 4U 1626-67 CGS1627-673	2A 1627-673 1M 1626-67 XRS16272-673	KZ TrA (R)
1H1627+302	246.88 30.20 16 27 31 30 12 16	50.07 42.51 237.32 51.06	245.90 30.57 16 23 35 30 34 05	247.94 30.10 16 31 45 30 06 13	247.85 29.83 16 31 24 29 50 01	245.82 30.30 16 23 16 30 17 48	.510	.0032 .0001	4U 1628+286	XRS16284+286	
1H1630+673	247.64 67.35 16 30 33 67 20 42	99.20 38.24 164.60 81.26	247.57 66.34 16 30 17 66 20 18	247.07 68.33 16 28 17 68 19 45	247.72 68.35 16 30 51 68 21 06	248.16 66.36 16 32 39 66 21 33	.476	.0055 .0011			

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H1556+273	239.04 27.32 15 56 08 27 19 27	44.15 48.71 228.48 46.41	239.61 27.08 15 58 27 27 04 59	238.41 27.42 15 53 37 27 25 26	238.46 27.56 15 53 49 27 33 47	239.66 27.22 15 58 39 27 13 19	.164	.0151 .0018	2A 1556+274 H 1556+274	4U 1556+27 XRS15565+272	A2142 (R)
1H1600-757	240.03 -75.77 16 00 08 -75 46 16	314.00 -17.42 258.07 -53.57	237.29 -75.42 15 49 10 -75 25 23	243.11 -75.91 16 12 26 -75 54 48	242.90 -76.09 16 11 36 -76 05 11	237.03 -75.59 15 48 06 -75 35 25	.274	.0047 .0006	2A 1556-756	XRS15561-756	
1H1604+158	241.07 15.85 16 04 17 15 50 43	29.12 43.47 234.97 35.84	239.16 16.38 15 56 38 16 22 43	243.03 15.51 16 12 06 15 30 31	242.97 15.30 16 11 53 15 17 42	239.11 16.16 15 56 26 16 09 51	.840	.0062 .0030	2A 1600+164 XRS16011+59	4U 1601+15	A2147 (R)
1H1607-189	241.89 -18.97 16 07 33 -18 58 05	354.63 23.21 243.52 1.93	241.29 -18.78 16 05 09 -18 46 41	242.52 -19.00 16 10 03 -18 59 55	242.49 -19.16 16 09 56 -19 09 22	241.26 -18.94 16 05 02 -18 56 07	.189	.0044 .0005			
1H1607+031	241.84 3.15 16 07 22 03 08 55	14.86 36.86 239.05 23.62	241.16 3.37 16 04 39 03 22 21	242.56 3.12 16 10 14 03 07 08	242.52 2.92 16 10 05 02 55 27	241.13 3.18 16 04 30 03 10 40	.281	.0046 .0007			
1H1608-522	242.22 -52.30 16 08 52 -52 17 42	330.93 -.85 250.64 -30.70	242.22 -52.30 16 08 52 -52 17 42	242.22 -52.30 16 08 52 -52 17 42	242.22 -52.30 16 08 52 -52 17 42	242.22 -52.30 16 08 52 -52 17 42	.000	1.5880 .0250	2S 1608-523 1M 1608-52 XRS16088-523	4U 1608-52 CGS1608-522	Norma Burster Norma Transient (R)
1H1608+447	242.01 44.73 16 08 02 44 43 33	70.33 47.00 221.56 63.54	243.16 44.12 16 12 38 44 07 14	240.61 44.96 16 02 26 44 57 21	240.84 45.32 16 03 21 45 19 11	243.40 44.48 16 13 36 44 28 45	.796	.0025 .0008			
1H1611-286	242.81 -28.61 16 11 13 -28 36 47	347.84 15.95 246.14 -7.39	241.71 -28.34 16 06 49 -28 20 38	243.94 -28.71 16 15 46 -28 42 37	243.91 -28.87 16 15 38 -28 52 25	241.67 -28.51 16 06 40 -28 30 24	.332	.0031 .0004	4U 1614-27	XRS16146-277	
1H1613-097	243.42 -9.76 16 13 40 -09 45 47	3.47 28.07 243.28 11.25	242.31 -9.40 16 09 14 -09 23 46	244.58 -9.81 16 18 20 -09 48 43	244.53 -10.13 16 18 06 -10 07 36	242.25 -9.71 16 09 00 -09 42 38	.730	.0029 .0007			 (R)
1H1613-060	243.34 -6.05 16 13 22 -06 02 48	6.79 30.40 242.51 14.89	242.91 -5.88 16 11 39 -05 53 00	243.80 -6.05 16 15 12 -06 03 10	243.77 -6.21 16 15 05 -06 12 36	242.88 -6.04 16 11 31 -06 02 25	.144	.0060 .0007			A2163 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H1645-596	251.32 -59.67 16 45 17 -59 40 14	329.06 -9.60 258.32 -36.98	250.73 -59.58 16 42 55 -59 34 52	251.94 -59.68 16 47 46 -59 40 43	251.92 -59.76 16 47 40 -59 45 27	250.71 -59.66 16 42 49 -59 39 36	.050	.0095 .0006	H 1649-595	XRS16450-575	NGC6221? NGC6215? NGC6215A? (R)
1H1645-519	251.32 -51.94 16 45 17 -51 56 22	335.05 -4.65 256.91 -29.34	249.74 -51.73 16 38 57 -51 43 53	252.94 -52.02 16 51 46 -52 01 23	252.92 -52.13 16 51 41 -52 07 35	249.71 -51.83 16 38 50 -51 50 02	.208	.0047 .0004			
1H1645-442	251.36 -44.25 16 45 25 -44 14 50	340.93 .31 255.73 -21.72	249.98 -44.09 16 39 55 -44 05 25	252.74 -44.36 16 50 58 -44 21 50	252.74 -44.39 16 50 57 -44 23 16	249.97 -44.11 16 39 53 -44 06 50	.048	.0685 .0007	GX341+1		(R)
1H1651+398	252.99 39.88 16 51 58 39 52 42	63.64 38.91 241.78 61.67	252.74 39.97 16 50 58 39 58 28	253.27 39.86 16 53 05 39 51 31	253.24 39.78 16 52 58 39 46 54	252.72 39.90 16 50 51 39 53 51	.034	.0087 .0004	4U 1651+39	XRS16518+399	Mkn 501 (R)
1H1652-180	253.16 -18.07 16 52 38 -18 04 22	2.56 15.52 253.96 4.44	252.63 -17.93 16 50 30 -17 55 57	253.71 -18.05 16 54 50 -18 03 09	253.69 -18.21 16 54 46 -18 12 41	252.61 -18.09 16 50 25 -18 05 29	.166	.0069 .0007	H 1648-185?		
1H1653-083	253.40 -8.36 16 53 35 -08 21 52	11.07 20.91 253.05 14.11	252.22 -8.09 16 48 52 -08 05 34	254.61 -8.35 16 58 26 -08 21 15	254.58 -8.63 16 58 19 -08 37 57	252.19 -8.37 16 48 45 -08 22 16	.666	.0030 .0006			Wolf 630 (R)
1H1653-062	253.36 -6.28 16 53 25 -06 16 31	12.92 22.09 252.76 16.18	252.65 -6.04 16 50 35 -06 02 29	254.10 -6.20 16 56 24 -06 12 00	254.07 -6.51 16 56 15 -06 30 30	252.61 -6.35 16 50 26 -06 20 58	.451	.0066 .0015	4U 1651-06	XRS16518-065	
1H1656+354	254.01 35.42 16 56 01 35 25 05	58.15 37.52 245.30 57.50	254.01 35.42 16 56 01 35 25 05	254.01 35.42 16 56 01 35 25 05	254.01 35.42 16 56 01 35 25 05	254.01 35.42 16 56 01 35 25 05	.000	.0233 .0004	2A 1655+353 1M 1656+35 XRS16560+354	4U 1656+35 Her X-1	HZ Her (R)
1H1657-037	254.40 -3.77 16 57 36 -03 46 06	15.81 22.56 253.54 18.79	253.77 -3.61 16 55 05 -03 36 53	255.05 -3.76 17 00 11 -03 45 46	255.03 -3.92 17 00 07 -03 55 18	253.76 -3.77 16 55 01 -03 46 25	.205	.0054 .0006			
1H1658-298	254.73 -29.87 16 58 55 -29 52 27	353.83 7.27 256.69 -7.13	254.73 -29.87 16 58 55 -29 52 27	254.73 -29.87 16 58 55 -29 52 27	254.73 -29.87 16 58 55 -29 52 27	254.73 -29.87 16 58 55 -29 52 27	.000	.0263 .0009	4U 1704-30 CGS1658-298	MXB1659-29 XRS16590-298	(R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY		NON X-RAY
1H1631+394	248.00 39.48 16 31 58 39 28 35	62.74 42.71 234.38 60.23	249.18 39.06 16 36 42 39 03 24	246.71 39.66 16 26 50 39 39 22	246.80 39.88 16 27 11 39 53 02	249.27 39.28 16 37 05 39 16 57	.476	.0146 .0037	2A 1626+396 XRS16278+396	4U 1627+39	A2199 (R)
1H1632+736	248.05 73.64 16 32 11 73 38 08	106.35 35.60 126.56 79.82	244.93 72.82 16 19 43 72 49 29	250.33 74.67 16 41 18 74 40 29	251.47 74.40 16 45 53 74 23 45	246.04 72.57 16 24 09 72 34 28	.988	.0020 .0006			
1H1634-281	248.70 -28.15 16 34 48 -28 08 59	351.81 12.45 251.21 -6.08	247.59 -27.94 16 30 21 -27 56 26	249.83 -28.23 16 39 19 -28 13 51	249.81 -28.35 16 39 15 -28 21 00	247.57 -28.06 16 30 16 -28 03 33	.240	.0056 .0006			
1H1634+117	248.51 11.74 16 34 03 11 44 38	28.12 35.20 244.59 33.31	247.52 11.98 16 30 04 11 58 43	249.53 11.63 16 38 06 11 37 47	249.51 11.51 16 38 01 11 30 21	247.50 11.85 16 29 58 11 51 16	.252	.0039 .0004			MC2 1635+119? (R)
1H1635-642	248.83 -64.29 16 35 20 -64 17 35	324.70 -11.69 257.88 -41.74	246.60 -64.07 16 26 23 -64 03 56	251.12 -64.45 16 44 28 -64 27 00	251.10 -64.49 16 44 25 -64 29 08	246.58 -64.10 16 26 18 -64 06 02	.072	.0184 .0005	2A 1631-64? 1M 1632-64	4U 1631-64 XRS16315-643	 (R)
1H1636-731	249.18 -73.14 16 36 43 -73 08 35	317.76 -17.45 260.70 -50.37	247.09 -72.85 16 28 21 -72 50 51	251.52 -73.20 16 46 04 -73 12 10	251.34 -73.42 16 45 21 -73 25 00	246.86 -73.06 16 27 27 -73 03 25	.295	.0061 .0009			
1H1636-536	249.23 -53.65 16 36 56 -53 39 14	332.92 -4.82 255.77 -31.23	249.23 -53.65 16 36 56 -53 39 14	249.23 -53.65 16 36 56 -53 39 14	249.23 -53.65 16 36 56 -53 39 14	249.23 -53.65 16 36 56 -53 39 14	.000	.4709 .0054	2S 1636-536 MXB1636-53 XRS16364-536	4U 1636-53 CGS1636-536	V801 Ara (R)
1H1639-109	249.79 -10.92 16 39 10 -10 54 59	6.64 22.38 249.78 11.12	248.72 -10.53 16 34 52 -10 31 51	250.94 -10.82 16 43 44 -10 49 28	250.87 -11.30 16 43 29 -11 17 54	248.65 -11.00 16 34 36 -11 00 15	1.051	.0056 .0019			Zeta Oph? (R)
1H1640+316	250.10 31.65 16 40 25 31 38 56	52.65 40.06 241.14 53.12	248.68 32.17 16 34 43 32 10 23	251.64 31.51 16 46 34 31 30 49	251.51 31.11 16 46 02 31 06 32	248.56 31.77 16 34 15 31 45 55	1.092	.0018 .0005			
1H1642-455	250.54 -45.52 16 42 10 -45 31 12	339.59 -.08 255.31 -23.06	250.54 -45.52 16 42 10 -45 31 12	250.54 -45.52 16 42 10 -45 31 12	250.54 -45.52 16 42 10 -45 31 12	250.54 -45.52 16 42 10 -45 31 12	.000	.7523 .0090	2S 1642-455 1M 1642-45 ARA X-1 XRS16421-455	4U 1642-45 GX340+0 CGS1642-455	G339.6-0.1 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY		NON X-RAY
1H1706+241	256.66 24.12 17 06 37 24 07 09	45.43 32.55 252.10 46.74	256.03 24.29 17 04 07 24 17 25	257.31 24.12 17 09 14 24 07 24	257.28 23.95 17 09 07 23 56 43	256.00 24.11 17 04 00 24 06 43	.212	.0049 .0006	2A 1704+241 XRS17040+241	4U 1700+24	HD154791 (R)
1H1706+786	256.52 78.68 17 06 03 78 40 48	110.99 31.80 102.02 77.30	255.85 78.65 17 03 24 78 39 07	257.06 78.76 17 08 13 78 45 41	257.18 78.71 17 08 43 78 42 24	255.98 78.60 17 03 55 78 35 52	.016	.0108 .0004	2A 1705+786 1M 1706+78	4U 1707+78 XRS1707+786	A2256 (R)
1H1708-405	257.22 -40.58 17 08 51 -40 34 58	346.49 -.81 259.85 -17.59	257.11 -40.56 17 08 27 -40 33 44	257.32 -40.58 17 09 17 -40 34 40	257.32 -40.60 17 09 16 -40 36 13	257.11 -40.59 17 08 26 -40 35 17	.004	.0870 .0015	4U 1708-40 XRS17083-407	1M 1709-40	(R)
1H1709+105	257.27 10.59 17 09 04 10 35 39	31.21 26.95 254.97 33.38	256.26 10.76 17 05 03 10 45 37	258.29 10.55 17 13 09 10 33 01	258.27 10.43 17 13 05 10 25 30	256.25 10.64 17 05 00 10 38 06	.252	.0044 .0005			
1H1710-387	257.63 -38.79 17 10 32 -38 47 27	348.12 -.00 260.01 -15.77	256.36 -38.68 17 05 26 -38 41 00	258.92 -38.86 17 15 39 -38 51 37	258.91 -38.88 17 15 39 -38 53 04	256.36 -38.71 17 05 25 -38 42 26	.048	.0634 .0005	4U 1715-39		
1H1712-337	258.20 -33.74 17 12 49 -33 44 41	352.48 2.59 260.04 -10.71	257.01 -33.61 17 08 02 -33 36 52	259.41 -33.78 17 17 37 -33 46 47	259.40 -33.86 17 17 36 -33 51 49	257.00 -33.70 17 08 00 -33 41 53	.168	.0425 .0108	A 1710-34	XRS17108-340	(R)
1H1712+490	258.24 49.03 17 12 57 49 01 58	75.44 35.76 245.14 71.47	257.20 49.35 17 08 48 49 20 56	259.37 48.94 17 17 29 48 56 14	259.27 48.71 17 17 04 48 42 28	257.10 49.12 17 08 24 49 07 02	.355	.0024 .0004			A2252 (R)
1H1712+641	258.10 64.13 17 12 23 64 07 40	93.94 34.93 200.55 84.49	258.30 63.93 17 13 10 63 55 54	257.69 64.25 17 10 46 64 14 57	257.90 64.32 17 11 36 64 19 24	258.50 64.01 17 14 00 64 00 18	.048	.0041 .0003			A2255 (R)
1H1714+424	258.68 42.41 17 14 43 42 24 32	67.37 34.92 249.89 65.07	257.14 42.84 17 08 33 42 50 15	260.32 42.31 17 21 16 42 18 35	260.20 41.96 17 20 48 41 57 36	257.04 42.48 17 08 09 42 29 05	.864	.0018 .0006			
1H1715-321	258.88 -32.12 17 15 31 -32 07 16	354.13 3.07 260.48 -9.04	258.88 -32.12 17 15 31 -32 07 16	258.88 -32.12 17 15 31 -32 07 16	258.88 -32.12 17 15 31 -32 07 16	258.88 -32.12 17 15 31 -32 07 16	.000	.0450 .0029	2S 1715-321 1M 1716-31 XRS17155-321	4U 1704-30 CGS1715-321	(R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H1659-487	254.76 -48.72 16 59 01 -48 43 05	338.94 -4.33 258.89 -25.86	254.76 -48.72 16 59 01 -48 43 05	254.76 -48.72 16 59 01 -48 43 05	254.76 -48.72 16 59 01 -48 43 05	254.76 -48.72 16 59 01 -48 43 05	.000	.1683 .0030	4U 1658-48 GX339-4 XRS16589-487	1M 1658-48 CGS1659-487	(R)
1H1659-317	254.82 -31.73 16 59 15 -31 43 45	352.39 6.08 256.96 -8.97	253.65 -31.58 16 54 36 -31 34 43	255.99 -31.79 17 03 57 -31 47 22	255.98 -31.87 17 03 55 -31 52 09	253.64 -31.66 16 54 33 -31 39 29	.160	.0066 .0004	4U 1705-32	XRS17056-322	
1H1702-437	255.54 -43.76 17 02 10 -43 45 47	343.20 -1.73 258.87 -20.87	254.17 -43.63 16 56 41 -43 38 01	256.92 -43.85 17 07 41 -43 50 46	256.92 -43.88 17 07 41 -43 52 33	254.17 -43.66 16 56 40 -43 39 48	.060	.0560 .0009	4U 1705-44 XRS17053-440	CGS1705-440	(R)
1H1702-363	255.60 -36.36 17 02 23 -36 21 26	349.10 2.75 258.11 -13.50	255.60 -36.36 17 02 23 -36 21 26	255.60 -36.36 17 02 23 -36 21 26	255.60 -36.36 17 02 23 -36 21 26	255.60 -36.36 17 02 23 -36 21 26	.000	1.6610 .0189	2S 1702-363 1M 1702-36 CGS1702-363	4U 1702-36 Sco XR-2 XRS17023-363	(R)
1H1702+336	255.51 33.67 17 02 01 33 40 23	56.29 35.99 248.12 56.02	254.40 34.25 16 57 36 34 15 03	256.78 33.89 17 07 07 33 53 34	256.59 33.09 17 06 22 33 05 09	254.24 33.44 16 56 57 33 26 25	1.644	.0046 .0007	2A 1659+337 XRS16592+337	3U 1706+32	A2244 (R)
1H1702+456	255.63 45.69 17 02 32 45 41 32	71.19 37.38 242.72 67.78	254.33 46.17 16 57 18 46 10 01	257.10 45.64 17 08 24 45 38 34	256.92 45.20 17 07 40 45 12 10	254.17 45.72 16 56 39 45 43 22	.916	.0012 .0005			(R)
1H1703-013	255.99 -1.34 17 03 57 -01 20 08	18.96 22.46 254.93 21.38	255.52 -1.22 17 02 04 -01 12 56	256.47 -1.32 17 05 53 -01 18 59	256.46 -1.46 17 05 50 -01 27 21	255.50 -1.35 17 02 00 -01 21 17	.134	.0068 .0006	4U 1716-016	XRS17166-016	UGC 106838 (R)
1H1704-198	256.04 -19.88 17 04 09 -19 52 35	2.70 12.26 256.87 2.93	254.99 -19.73 16 59 56 -19 43 45	257.10 -19.92 17 08 24 -19 55 17	257.09 -20.02 17 08 22 -20 01 01	254.98 -19.82 16 59 54 -19 49 29	.192	.0056 .0004			
1H1704+605	256.08 60.53 17 04 18 60 31 31	89.73 36.39 217.78 81.38	257.45 59.78 17 09 47 59 47 01	254.32 61.06 16 57 17 61 03 28	254.64 61.25 16 58 34 61 15 08	257.77 59.97 17 11 05 59 58 15	.496	.0045 .0010	2A 1705+609	XRS17052+609	3C351? (R)
1H1705-250	256.29 -25.03 17 05 10 -25 01 38	358.59 9.06 257.59 -2.17	256.29 -25.03 17 05 10 -25 01 38	256.29 -25.03 17 05 10 -25 01 38	256.29 -25.03 17 05 10 -25 01 38	256.29 -25.03 17 05 10 -25 01 38	.000	4.2110 .0668	CGS1705-250	XRS17051-250	Nova Oph 1977 V2107 Oph (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY		NON X-RAY
1H1728-247	262.15 -24.70 17 28 36 -24 42 13	1.90 4.87 262.87 -1.45	261.05 -24.63 17 24 12 -24 38 00	263.25 -24.74 17 33 00 -24 44 31	263.25 -24.77 17 33 00 -24 45 58	261.05 -24.66 17 24 12 -24 39 26	.048	.0574 .0006	2S 1728-247 GX1+4 XRS17289-247	4U 1728-24 CGS1728-247	V2116 Oph (R)
1H1728-213	262.15 -21.40 17 28 36 -21 23 48	4.68 6.67 262.69 1.85	261.98 -21.37 17 27 55 -21 22 05	262.33 -21.39 17 29 18 -21 23 07	262.32 -21.43 17 29 17 -21 25 31	261.98 -21.41 17 27 55 -21 24 28	.013	.0209 .0006			Kepler SNR (R)
1H1728-169	262.21 -16.92 17 28 50 -16 55 19	8.52 9.04 262.50 6.32	262.21 -16.92 17 28 50 -16 55 19	262.21 -16.92 17 28 50 -16 55 19	262.21 -16.92 17 28 50 -16 55 19	262.21 -16.92 17 28 50 -16 55 19	.000	.8652 .0127	2S 1728-169 1M 1728-16 XRS17288-169	4U 1728-16 GX9+9	(R)
1H1730+500	262.74 50.03 17 30 57 50 01 40	76.85 32.90 253.82 73.07	261.24 50.37 17 24 58 50 21 55	264.32 50.02 17 37 16 50 01 08	264.22 49.67 17 36 51 49 40 17	261.16 50.02 17 24 38 50 00 55	.708	.0014 .0004			I Zw 186 (R)
1H1731-075	262.94 -7.54 17 31 45 -07 32 08	17.06 13.34 262.73 15.73	261.36 -7.28 17 25 25 -07 17 01	264.54 -7.44 17 38 09 -07 26 18	264.52 -7.78 17 38 05 -07 46 54	261.34 -7.63 17 25 21 -07 37 37	1.088	.0029 .0007			
1H1732+439	263.19 44.00 17 32 45 43 59 52	69.80 31.89 257.31 67.14	261.82 44.23 17 27 17 44 13 45	264.59 43.99 17 38 21 43 59 09	264.54 43.75 17 38 10 43 45 01	261.79 43.99 17 27 09 43 59 33	.476	.0018 .0003	3U 1736+43		
1H1733+356	263.48 35.66 17 33 54 35 39 18	60.31 30.03 259.71 58.87	262.64 35.89 17 30 33 35 53 37	264.36 35.68 17 37 26 35 40 52	264.31 35.41 17 37 13 35 24 38	262.59 35.62 17 30 22 35 37 21	.387	.0035 .0006			
1H1735-444	263.83 -44.42 17 35 19 -44 25 18	346.05 -6.99 265.28 -21.08	263.83 -44.42 17 35 19 -44 25 18	263.83 -44.42 17 35 19 -44 25 18	263.83 -44.42 17 35 19 -44 25 18	263.83 -44.42 17 35 19 -44 25 18	.000	.3694 .0051	2S 1735-444 MXB1735-44 XRS17353-444	4U 1735-44 CGS1735-444	V926 Sco (R)
1H1735+388	263.94 38.83 17 35 46 38 49 59	63.99 30.38 259.89 62.07	262.54 39.18 17 30 10 39 10 39	265.41 38.79 17 41 37 38 47 11	265.33 38.47 17 41 19 38 28 20	262.48 38.86 17 29 54 38 51 41	.723	.0022 .0005			
1H1735+400	263.81 40.06 17 35 14 40 03 29	65.35 30.74 259.42 63.28	263.06 40.23 17 32 14 40 13 38	264.59 40.06 17 38 21 40 03 44	264.55 39.88 17 38 13 39 53 03	263.03 40.05 17 32 07 40 02 56	.212	.0031 .0004			A2278? (R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY	NON X-RAY
1H1718-010	259.62 -1.05 17 18 28 -01 03 06	21.17 19.46 258.80 21.99	258.63 -.92 17 14 30 -00 55 20	260.62 -1.08 17 22 28 -01 04 37	260.61 -1.18 17 22 26 -01 10 50	258.62 -1.03 17 14 28 -01 01 34	.208	.0056 .0005	4U 1716-01 XRS17166-016	3C353?
1H1718+242	259.56 24.27 17 18 13 24 15 54	46.57 30.09 255.92 47.20	258.49 24.54 17 13 56 24 32 36	260.67 24.33 17 22 40 24 19 51	260.63 23.98 17 22 30 23 58 45	258.45 24.19 17 13 47 24 11 28	.708	.0018 .0005		V396 Her B2 1719+24? (R)
1H1719+033	259.98 3.34 17 19 55 03 20 39	25.46 21.27 258.82 26.40	258.99 3.46 17 15 56 03 27 42	260.98 3.31 17 23 56 03 18 26	260.98 3.23 17 23 54 03 13 32	258.98 3.38 17 15 55 03 22 48	.164	.0078 .0005	4U 1715+02 XRS17154+028	
1H1720-669	260.20 -66.91 17 20 48 -66 54 44	325.34 -17.02 264.71 -43.65	259.19 -66.82 17 16 46 -66 49 23	261.24 -66.89 17 24 56 -66 53 35	261.22 -67.00 17 24 52 -66 59 42	259.17 -66.92 17 16 40 -66 55 29	.082	.0080 .0005		NGC6362?
1H1720+117	260.20 11.79 17 20 48 11 47 26	33.78 24.85 258.29 34.84	259.58 11.94 17 18 18 11 56 10	260.84 11.82 17 23 21 11 49 23	260.82 11.64 17 23 17 11 38 38	259.56 11.76 17 18 14 11 45 25	.223	.0046 .0005	4U 1722+11? XRS17228+119	
1H1720+269	260.21 26.90 17 20 50 26 54 13	49.68 30.35 256.39 49.89	259.28 27.11 17 17 06 27 06 33	261.17 26.91 17 24 41 26 54 36	261.14 26.69 17 24 34 26 41 30	259.25 26.89 17 17 00 26 53 26	.374	.0038 .0007		A2263 (R)
1H1720+573	260.01 57.34 17 20 02 57 20 06	85.60 34.66 238.49 79.68	258.34 57.78 17 13 21 57 47 03	261.76 57.01 17 27 03 57 00 44	261.64 56.86 17 26 34 56 51 52	258.23 57.63 17 12 54 57 37 59	.324	.0034 .0006		
1H1726-058	261.61 -5.86 17 26 25 -05 51 41	17.85 15.33 261.25 17.33	260.30 -5.57 17 21 11 -05 34 19	262.94 -5.75 17 31 46 -05 44 55	262.92 -6.15 17 31 40 -06 08 52	260.27 -5.97 17 21 04 -05 58 15	1.056	.0032 .0009		
1H1727+308	261.91 30.82 17 27 39 30 48 57	54.52 30.05 258.16 53.93	261.27 30.96 17 25 05 30 57 20	262.57 30.85 17 30 17 30 51 08	262.55 30.67 17 30 12 30 40 23	261.26 30.78 17 25 01 30 46 34	.202	.0036 .0004		
1H1728-334	262.16 -33.49 17 28 37 -33 29 06	354.56 .03 263.36 -10.22	261.78 -33.46 17 27 06 -33 27 30	262.54 -33.49 17 30 09 -33 29 26	262.54 -33.51 17 30 09 -33 30 38	261.77 -33.48 17 27 05 -33 28 42	.013	.3168 .0300	MXB1728-34	Grindlay 1 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H1801+579	270.38 57.97 18 01 30 57 58 11	86.54 29.14 271.34 81.41	268.48 58.06 17 53 55 58 03 29	272.27 58.09 18 09 03 58 05 35	272.26 57.85 18 09 02 57 51 12	268.50 57.82 17 54 00 57 49 06	.480	.0026 .0005			
1H1803+696	270.90 69.66 18 03 36 69 39 28	99.95 29.49 84.24 86.88	268.05 69.83 17 52 10 69 49 34	273.78 69.60 18 15 06 69 35 46	273.71 69.44 18 14 49 69 26 38	268.01 69.67 17 52 03 69 40 21	.308	.0030 .0004			3C371 (R)
1H1810+182	272.67 18.21 18 10 40 18 12 48	45.33 16.51 273.39 41.63	271.55 18.37 18 06 12 18 22 29	273.79 18.37 18 15 08 18 21 55	273.78 18.05 18 15 07 18 02 44	271.55 18.05 18 06 12 18 03 17	.678	.0054 .0016			
1H1811-171	272.91 -17.17 18 11 37 -17 10 14	13.52 .11 272.79 6.25	272.91 -17.17 18 11 37 -17 10 14	272.91 -17.17 18 11 37 -17 10 14	272.91 -17.17 18 11 37 -17 10 14	272.91 -17.17 18 11 37 -17 10 14	.000	.8270 .0148	2S 1811-171 1M 1811-17 CGS1811-171	4U 1811-17 GX13+1 Sgr XR-2	 (R)
1H1811+670	272.81 67.08 18 11 15 67 04 55	97.02 28.72 26.77 88.77	273.63 66.13 18 14 30 66 07 52	271.51 67.95 18 06 01 67 57 09	271.94 68.03 18 07 44 68 01 42	274.03 66.20 18 16 07 66 12 06	.356	.0057 .0008			1803+676 (R)
1H1812-182	273.13 -18.23 18 12 31 -18 13 56	12.69 -.59 272.98 5.18	272.08 -18.24 18 08 18 -18 14 10	274.18 -18.19 18 16 43 -18 11 33	274.18 -18.22 18 16 43 -18 13 21	272.08 -18.27 18 08 18 -18 15 58	.060	.1470 .0025	A 1805-18		 (R)
1H1813-140	273.29 -14.05 18 13 10 -14 03 13	16.43 1.28 273.24 9.35	273.29 -14.05 18 13 10 -14 03 13	273.29 -14.05 18 13 10 -14 03 13	273.29 -14.05 18 13 10 -14 03 13	273.29 -14.05 18 13 10 -14 03 13	.000	1.3690 .0188	2S 1813-140 1M 1813-14 CGS1813-140	4U 1813-14 GX17+2 Ser XR-2	 (R)
1H1814+498	273.74 49.85 18 14 58 49 50 49	77.86 25.88 278.37 73.18	273.74 49.85 18 14 58 49 50 49	273.74 49.85 18 14 58 49 50 49	273.74 49.85 18 14 58 49 50 49	273.74 49.85 18 14 58 49 50 49	.000	.0119 .0004	2A 1815+500 (1M)1814+49	4U 1813+500 XRS18149+498	AM Her (R)
1H1815-121	273.81 -12.17 18 15 14 -12 09 56	18.33 1.74 273.80 11.23	273.66 -12.15 18 14 37 -12 08 58	273.96 -12.14 18 15 51 -12 08 29	273.96 -12.18 18 15 51 -12 10 53	273.66 -12.19 18 14 37 -12 11 22	.012	.0429 .0025	4U 1812-12	1M 1812-12?	 (R)
1H1815+538	273.99 53.89 18 15 56 53 53 08	82.30 26.55 280.64 77.18	273.29 54.08 18 13 09 54 04 31	274.73 53.98 18 18 56 53 58 54	274.68 53.69 18 18 42 53 41 30	273.24 53.78 18 12 57 53 47 05	.249	.0027 .0005			

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H1820-303	275.12 -30.39 18 20 27 -30 23 10	2.79 -7.91 274.44 -7.02	275.12 -30.39 18 20 27 -30 23 10	275.12 -30.39 18 20 27 -30 23 10	275.12 -30.39 18 20 27 -30 23 10	275.12 -30.39 18 20 27 -30 23 10	.000	.8627 .0114	2S 1820-303 MXB1820-30 XRS18204-303	4U 1820-30 CGS1820-303	NGC6624 (R)
1H1820+303	275.21 30.30 18 20 50 30 18 04	57.98 19.03 277.59 53.61	274.53 30.34 18 18 07 30 20 31	275.87 30.42 18 23 29 30 25 00	275.89 30.26 18 23 32 30 15 25	274.55 30.18 18 18 10 30 10 56	.186	.0056 .0007			
1H1820+643	275.17 64.39 18 20 41 64 23 31	94.07 27.53 317.17 86.95	274.80 64.42 18 19 11 64 24 59	275.32 64.54 18 21 17 64 32 32	275.55 64.37 18 22 11 64 22 00	275.02 64.24 18 20 05 64 14 30	.052	.0056 .0005	H 1824+644		 (R)
1H1822-371	275.60 -37.13 18 22 22 -37 08 01	356.85 -11.29 274.59 -13.78	275.60 -37.13 18 22 22 -37 08 01	275.60 -37.13 18 22 22 -37 08 01	275.60 -37.13 18 22 22 -37 08 01	275.60 -37.13 18 22 22 -37 08 01	.000	.0459 .0011	2A 1822-371 1M 1822-37 XRS18222-371	4U 1822-37 CGS1822-371	V691 CrA (R)
1H1822+000	275.70 -.04 18 22 48 -00 02 23	29.94 5.79 276.21 23.28	275.70 -.04 18 22 48 -00 02 23	275.70 -.04 18 22 48 -00 02 23	275.70 -.04 18 22 48 -00 02 23	275.70 -.04 18 22 48 -00 02 23	.000	.0825 .0015	2S 1822-000 1M 1822-00 XRS18228-000	4U 1823-00 CGS1822-000	 (R)
1H1828-593	277.24 -59.32 18 28 56 -59 19 03	335.96 -20.87 274.56 -35.99	275.27 -59.28 18 21 05 -59 16 51	279.17 -59.16 18 36 41 -59 09 26	279.20 -59.32 18 36 48 -59 19 28	275.28 -59.45 18 21 07 -59 26 55	.336	.0044 .0006			
1H1828-105	277.20 -10.60 18 28 48 -10 35 43	21.29 -.45 277.26 12.67	276.95 -10.57 18 27 46 -10 34 29	277.46 -10.55 18 29 50 -10 32 52	277.46 -10.62 18 29 50 -10 36 57	276.95 -10.64 18 27 47 -10 38 33	.034	.0221 .0010	A 1829-10? 	XRS18310-109	MSH18-113 (R)
1H1831+114	277.87 11.44 18 31 28 11 26 06	41.24 9.07 279.38 34.62	276.84 11.58 18 27 20 11 34 39	278.87 11.71 18 35 29 11 42 36	278.90 11.29 18 35 36 11 17 20	276.87 11.16 18 27 27 11 09 24	.844	.0017 .0006			
1H1832-652	278.09 -65.21 18 32 21 -65 12 40	330.02 -23.00 274.55 -41.89	275.70 -65.21 18 22 48 -65 12 20	280.44 -65.06 18 41 46 -65 03 20	280.48 -65.18 18 41 54 -65 10 44	275.71 -65.33 18 22 50 -65 19 46	.248	.0058 .0006	H 1834-653		ESO 103-G25 (R)
1H1832-076	278.18 -7.61 18 32 42 -07 36 43	24.37 .09 278.42 15.59	277.17 -7.65 18 28 40 -07 39 02	279.18 -7.53 18 36 44 -07 31 59	279.19 -7.57 18 36 44 -07 34 15	277.17 -7.69 18 28 41 -07 41 18	.076	.0348 .0010	A 1829-06 	Sct X-1	 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H1835+326	278.85 32.62 18 35 24 32 37 29	61.46 17.00 283.29 55.66	278.36 32.66 18 33 26 32 39 30	279.33 32.73 18 37 19 32 43 43	279.35 32.59 18 37 23 32 35 21	278.38 32.52 18 33 30 32 31 08	.115	.0076 .0006	H 1832+325	4U 1825+33?	3C382 (R)
1H1836-786	279.09 -78.63 18 36 21 -78 38 00	315.67 -26.20 273.13 -55.29	275.67 -78.57 18 22 40 -78 34 03	282.37 -78.44 18 49 28 -78 26 31	282.54 -78.66 18 50 08 -78 39 34	275.71 -78.79 18 22 50 -78 47 15	.295	.0061 .0009	H 1846-786	1M 1849-77	STR1839-787 (R)
1H1837+049	279.37 4.99 18 37 29 04 59 21	36.12 4.84 280.60 28.09	279.37 4.99 18 37 29 04 59 21	279.37 4.99 18 37 29 04 59 21	279.37 4.99 18 37 29 04 59 21	279.37 4.99 18 37 29 04 59 21	.000	.5869 .0066	2S 1837+049 MXB1837+049 CGS1837+049	4U 1837+04 Ser XR-1 XRS18374+049	(R)
1H1840-050	280.13 -5.06 18 40 30 -05 03 40	27.53 -.45 280.61 18.01	279.12 -5.09 18 36 29 -05 05 17	281.13 -4.94 18 44 30 -04 56 27	281.13 -5.03 18 44 31 -05 01 57	279.13 -5.18 18 36 31 -05 10 47	.184	.0088 .0007	4U 1832-05	XRS18325-051	SNR 1838-05 (R)
1H1840+729	280.19 72.96 18 40 46 72 57 52	103.87 26.70 65.90 82.71	277.47 73.60 18 29 52 73 35 43	283.17 72.48 18 52 40 72 28 54	282.73 72.30 18 50 53 72 17 58	277.06 73.40 18 28 14 73 24 05	.452	.0027 .0005	2A 1854+683 XRS18543+683	4U 1859+69	A2310? (R)
1H1844+291	281.25 29.13 18 44 59 29 07 40	58.95 13.74 286.04 51.95	280.10 29.07 18 40 24 29 03 59	282.37 29.32 18 49 29 29 19 06	282.39 29.18 18 49 34 29 10 46	280.12 28.93 18 40 29 28 55 40	.280	.0048 .0006			
1H1845-024	281.42 -2.48 18 45 40 -02 28 32	30.42 -.40 282.19 20.49	281.42 -2.48 18 45 40 -02 28 32	281.42 -2.48 18 45 40 -02 28 32	281.42 -2.48 18 45 40 -02 28 32	281.42 -2.48 18 45 40 -02 28 32	.000	.0285 .0017	2S 1845-024 4U 1850-03 XRS18456-024	A 1845-02 CGS1845-024	(R)
1H1849+379	282.26 37.93 18 49 03 37 55 31	67.68 16.42 289.91 60.53	281.41 37.90 18 45 37 37 53 51	283.03 38.24 18 52 06 38 14 15	283.12 37.95 18 52 29 37 56 49	281.51 37.61 18 46 01 37 36 30	.396	.0082 .0018	4U 1852+370	XRS1852+370	(R)
1H1850-087	282.59 -8.77 18 50 20 -08 46 00	25.36 -4.32 282.83 14.12	282.59 -8.77 18 50 20 -08 46 00	282.59 -8.77 18 50 20 -08 46 00	282.59 -8.77 18 50 20 -08 46 00	282.59 -8.77 18 50 20 -08 46 00	.000	.0151 .0007	2S 1850-087 MXB1850-08 XRS18503-087	4U 1850-08 CGS1850-087	NGC6712 (R)
1H1850+263	282.59 26.38 18 50 20 26 22 48	56.90 11.53 287.34 49.07	281.02 26.24 18 44 05 26 14 11	284.10 26.76 18 56 24 26 45 32	284.15 26.51 18 56 36 26 30 24	281.08 25.99 18 44 19 25 59 08	.718	.0043 .0012			

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H1851+100	282.76 10.08 18 51 02 10 05 05	42.20 4.17 285.01 32.87	281.71 10.12 18 46 50 10 07 06	283.78 10.33 18 55 07 10 20 02	283.81 10.05 18 55 14 10 02 51	281.74 9.83 18 46 57 09 49 55	.591	.0037 .0007			
1H1852+015	283.10 1.52 18 52 23 01 31 24	34.74 -.05 284.39 24.32	282.10 1.46 18 48 23 01 27 25	284.09 1.65 18 56 21 01 39 17	284.10 1.59 18 56 23 01 35 21	282.11 1.39 18 48 25 01 23 29	.132	.0165 .0008			W44? (R)
1H1853-312	283.29 -31.24 18 53 08 -31 14 24	5.06 -14.62 281.45 -8.32	282.12 -31.29 18 48 28 -31 17 25	284.45 -31.11 18 57 46 -31 06 20	284.45 -31.18 18 57 49 -31 10 45	282.12 -31.36 18 48 29 -31 21 50	.148	.0088 .0005	4U 1849-31	XRS18492-312	V1223 Sgr (R)
1H1858+031	284.67 3.19 18 58 40 03 11 20	36.94 -.68 286.31 25.81	283.67 3.12 18 54 40 03 07 13	285.66 3.34 19 02 37 03 20 39	285.67 3.26 19 02 40 03 15 24	283.68 3.03 18 54 42 03 01 58	.176	.0036 .0005	4U 1901+03	XRS19017+031	
1H1858+797	284.60 79.74 18 58 24 79 44 08	111.52 26.51 79.10 76.25	283.26 79.93 18 53 01 79 55 44	286.23 79.64 19 04 54 79 38 28	285.90 79.54 19 03 34 79 32 13	282.95 79.82 18 51 47 79 49 19	.072	.0036 .0003	4U 1847+78 XRS18476+789	H 1843+797	3C390.3 (R)
1H1903+689	285.94 68.94 19 03 46 68 56 26	99.86 24.14 28.83 83.53	286.43 67.96 19 05 43 67 57 18	285.07 69.89 19 00 15 69 53 37	285.41 69.92 19 01 38 69 55 29	286.75 67.98 19 06 59 67 59 00	.244	.0049 .0005	2A 1854+683 4U 1859+69	XRS18543+683	A2315? (R)
1H1905+000	286.48 .09 19 05 54 00 05 37	35.03 -3.71 287.88 22.52	286.48 .09 19 05 54 00 05 37	286.48 .09 19 05 54 00 05 37	286.48 .09 19 05 54 00 05 37	286.48 .09 19 05 54 00 05 37	.000	.0365 .0008	2S 1905+000 MXB1906+00 XRS19059+000	4U 1857+01 CGS1905+000	(R)
1H1905+550	286.37 55.03 19 05 29 55 01 42	85.55 19.91 312.15 76.07	285.26 54.83 19 01 01 54 50 02	287.32 55.42 19 09 17 55 25 12	287.50 55.21 19 09 59 55 12 44	285.44 54.63 19 01 44 54 37 45	.304	.0035 .0006			
1H1907+074	286.85 7.47 19 07 24 07 28 24	41.75 -.62 289.34 29.79	286.53 7.47 19 06 07 07 28 05	287.16 7.56 19 08 37 07 33 19	287.17 7.48 19 08 40 07 28 41	286.54 7.39 19 06 10 07 23 27	.049	.0186 .0011	4U 1909+07	XRS19092+076	(R)
1H1908+047	287.02 4.75 19 08 04 04 45 15	39.42 -2.03 289.12 27.08	286.55 4.76 19 06 11 04 45 22	287.47 4.88 19 09 52 04 53 05	287.49 4.75 19 09 56 04 45 07	286.57 4.62 19 06 15 04 37 24	.124	.0099 .0009	4U 1908+05	XRS19094+047	SS433 W50 V1343 Aql (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H1909+096	287.38 9.66 19 09 30 09 39 36	43.93 -.06 290.29 31.89	287.28 9.67 19 09 06 09 39 55	287.48 9.69 19 09 54 09 41 40	287.48 9.65 19 09 55 09 39 17	287.28 9.63 19 09 07 09 37 33	.008	.0315 .0007	4U 1907+09 1M 1906+09 XRS19078+095	(R)
1H1909+304	287.42 30.49 19 09 41 30 29 31	62.54 9.47 295.04 52.43	286.25 30.46 19 04 58 30 27 36	288.53 30.85 19 14 06 30 51 05	288.60 30.51 19 14 23 30 30 48	286.33 30.12 19 05 18 30 07 24	.688	.0023 .0007		
1H1911-589	287.93 -58.94 19 11 43 -58 56 24	337.86 -26.08 281.35 -36.20	285.99 -59.02 19 03 58 -59 01 08	289.82 -58.72 19 19 16 -58 42 58	289.86 -58.83 19 19 25 -58 49 56	286.02 -59.14 19 04 05 -59 08 10	.236	.0053 .0005	2A 1914-589 4U 1924-59 XRS19146-589	STR1914-588 (R)
1H1911-389	287.95 -38.99 19 11 46 -38 59 10	358.93 -20.98 284.46 -16.44	286.65 -39.01 19 06 36 -39 00 52	289.20 -38.76 19 16 48 -38 45 33	289.24 -38.94 19 16 56 -38 56 36	286.68 -39.20 19 06 43 -39 11 57	.372	.0040 .0006		
1H1913-193	288.48 -19.35 19 13 54 -19 21 17	18.24 -14.09 287.42 2.98	287.65 -19.32 19 10 35 -19 19 19	289.27 -19.13 19 17 04 -19 07 34	289.30 -19.38 19 17 12 -19 23 02	287.68 -19.58 19 10 43 -19 34 48	.400	.0050 .0009		
1H1914+335	288.69 33.57 19 14 45 33 34 09	65.82 9.87 297.91 55.22	287.48 33.50 19 09 54 33 30 16	289.82 33.95 19 19 17 33 57 08	289.91 33.62 19 19 37 33 37 19	287.57 33.18 19 10 17 33 10 33	.676	.0022 .0006	4U 1920+34 XRS19202+340	
1H1916-053	289.04 -5.33 19 16 08 -05 19 50	31.36 -8.46 289.83 16.81	289.04 -5.33 19 16 08 -05 19 50	289.04 -5.33 19 16 08 -05 19 50	289.04 -5.33 19 16 08 -05 19 50	289.04 -5.33 19 16 08 -05 19 50	.000	.0737 .0022	2S 1916-053 4U 1915-05 MXB1916-05 CGS1916-053 XRS19167-053	(R)
1H1917+141	289.38 14.15 19 17 30 14 09 04	48.81 .33 293.44 36.03	288.83 14.14 19 15 18 14 08 36	289.90 14.32 19 19 36 14 19 03	289.93 14.16 19 19 42 14 09 28	288.86 13.98 19 15 25 13 59 01	.171	.0083 .0010		
1H1918-481	289.57 -48.20 19 18 16 -48 11 55	349.71 -24.74 284.35 -25.72	288.02 -48.05 19 12 05 -48 02 50	290.97 -47.75 19 23 53 -47 45 12	291.12 -48.33 19 24 28 -48 19 44	288.14 -48.63 19 12 32 -48 37 35	1.168	.0012 .0006		STR1922-483
1H1919+438	289.85 43.88 19 19 22 43 53 05	75.70 13.56 305.25 64.92	289.62 43.86 19 18 29 43 51 36	290.04 43.96 19 20 10 43 57 49	290.07 43.91 19 20 16 43 54 32	289.65 43.81 19 18 35 43 48 18	.019	.0232 .0009	2A 1919+438 4U 1919+44 1M 1921+43 XRS19197+436	A2319 (R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY	NON X-RAY
1H1922+154	290.55 15.47 19 22 12 15 28 20	50.51 -.04 295.11 37.14	289.50 15.47 19 17 59 15 28 11	291.54 15.82 19 26 09 15 49 13	291.60 15.47 19 26 25 15 28 11	289.56 15.12 19 18 15 15 07 10	.712	.0054 .0007	4U 1918+15 A 1918+14 XRS19185+146	(R)
1H1922+746	290.58 74.60 19 22 18 74 36 12	106.26 24.18 59.04 79.55	288.94 75.22 19 15 46 75 13 09	292.69 74.12 19 30 46 74 07 10	292.08 73.98 19 28 20 73 58 35	288.33 75.07 19 13 18 75 03 57	.326	.0027 .0004		
1H1926+182	291.62 18.25 19 26 27 18 14 49	53.43 .39 297.04 39.68	290.56 18.14 19 22 15 18 08 17	292.63 18.52 19 30 31 18 31 09	292.67 18.35 19 30 39 18 21 00	290.60 17.97 19 22 24 17 58 10	.344	.0061 .0011		
1H1926+650	291.71 65.09 19 26 49 65 05 40	96.61 20.85 .71 81.04	291.33 64.81 19 25 18 64 48 30	291.84 65.42 19 27 21 65 25 02	292.09 65.38 19 28 22 65 22 46	291.58 64.77 19 26 18 64 46 16	.072	.0042 .0003		
1H1926+713	291.69 71.31 19 26 45 71 18 33	102.93 22.91 41.21 80.94	292.43 70.33 19 29 43 70 19 55	290.17 72.20 19 20 40 72 11 45	290.87 72.28 19 23 29 72 16 58	293.08 70.41 19 32 19 70 24 40	.464	.0044 .0008		
1H1927-516	291.90 -51.62 19 27 37 -51 37 13	346.36 -26.95 285.41 -29.34	290.14 -51.66 19 20 32 -51 39 48	293.59 -51.30 19 34 20 -51 17 44	293.67 -51.55 19 34 40 -51 33 03	290.20 -51.92 19 20 47 -51 55 14	.567	.0043 .0008		
1H1929+509	292.27 50.92 19 29 04 50 55 24	83.00 15.06 316.54 70.79	290.72 50.64 19 22 53 50 38 10	293.60 51.50 19 34 24 51 30 06	293.83 51.19 19 35 18 51 11 24	290.97 50.33 19 23 51 50 19 49	.685	.0035 .0009	H 1926+503	
1H1930-589	292.71 -58.96 19 30 50 -58 57 29	338.25 -28.52 284.37 -36.64	290.77 -59.05 19 23 04 -59 02 48	294.56 -58.67 19 38 15 -58 39 54	294.64 -58.84 19 38 33 -58 50 26	290.82 -59.22 19 23 17 -59 13 27	.360	.0043 .0006		
1H1930+302	292.59 30.28 19 30 21 30 16 56	64.42 5.42 302.00 51.25	291.45 30.09 19 25 48 30 05 40	293.70 30.58 19 34 47 30 34 59	293.73 30.46 19 34 55 30 27 38	291.49 29.97 19 25 56 29 58 21	.252	.0078 .0008		G65.2+5.7 (R)
1H1931+362	292.86 36.25 19 31 27 36 14 50	69.81 8.06 305.06 56.94	291.63 36.08 19 26 31 36 04 49	294.01 36.65 19 36 03 36 38 53	294.10 36.40 19 36 23 36 24 06	291.72 35.84 19 26 53 35 50 09	.512	.0028 .0006	4U 1933+36 XRS19336+361	

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H1934-063	293.65 -6.37 19 34 35 -06 21 56	32.53 -13.03 294.39 15.10	292.96 -6.39 19 31 49 -06 23 28	294.31 -6.16 19 37 13 -06 09 42	294.34 -6.34 19 37 20 -06 20 20	292.99 -6.57 19 31 57 -06 34 07	.245	.0061 .0009		HD185510 (R)
1H1936+541	294.17 54.12 19 36 41 54 07 17	86.51 15.39 324.98 72.96	292.93 53.78 19 31 42 53 46 57	295.20 54.66 19 40 48 54 39 53	295.44 54.45 19 41 45 54 26 51	293.17 53.57 19 32 41 53 34 11	.412	.0032 .0006		
1H1937-106	294.26 -10.65 19 37 01 -10 38 43	28.84 -15.46 294.27 10.78	293.38 -10.67 19 33 31 -10 40 13	295.09 -10.38 19 40 20 -10 22 53	295.13 -10.62 19 40 30 -10 37 04	293.42 -10.91 19 33 41 -10 54 25	.408	.0077 .0012	2A 1938-105 XRS19386-105	NGC6814 (R)
1H1937+233	294.44 23.35 19 37 46 23 21 06	59.18 .59 301.95 44.12	293.35 23.24 19 33 24 23 14 21	295.47 23.70 19 41 53 23 41 54	295.53 23.46 19 42 08 23 27 23	293.42 23.00 19 33 39 22 59 54	.496	.0043 .0009		
1H1939-405	294.87 -40.56 19 39 28 -40 33 25	358.96 -26.53 289.73 -18.80	293.74 -40.57 19 34 56 -40 34 09	295.93 -40.26 19 43 43 -40 15 33	296.00 -40.53 19 44 00 -40 32 02	293.80 -40.85 19 35 11 -40 50 42	.476	.0044 .0009		
1H1940+212	295.00 21.23 19 40 00 21 13 48	57.60 -.92 301.98 41.94	293.94 21.08 19 35 45 21 05 04	296.03 21.54 19 44 07 21 32 13	296.07 21.37 19 44 16 21 22 09	293.98 20.92 19 35 55 20 55 02	.344	.0056 .0008		
1H1942+607	295.65 60.79 19 42 36 60 47 11	93.14 17.53 345.06 77.37	294.27 60.05 19 37 05 60 02 53	296.80 61.63 19 47 11 61 37 33	297.10 61.51 19 48 22 61 30 35	294.57 59.94 19 38 15 59 56 15	.368	.0037 .0006		
1H1948+276	297.04 27.62 19 48 09 27 36 55	64.04 .72 306.74 47.67	295.54 27.47 19 42 08 27 28 23	298.46 28.08 19 53 51 28 04 58	298.55 27.74 19 54 12 27 44 29	295.63 27.13 19 42 31 27 08 00	.932	.0038 .0009		
1H1950-552	297.50 -55.27 19 50 00 -55 15 59	342.76 -30.75 288.41 -33.57	295.73 -55.32 19 42 54 -55 19 26	299.14 -54.88 19 56 33 -54 53 05	299.27 -55.18 19 57 04 -55 11 00	295.83 -55.63 19 43 20 -55 37 33	.616	.0026 .0007		
1H1950+366	297.74 36.64 19 50 56 36 38 32	72.10 4.84 312.05 56.11	296.39 36.69 19 45 33 36 41 25	298.75 37.36 19 55 00 37 21 28	299.08 36.58 19 56 19 36 34 45	296.74 35.92 19 46 57 35 55 06	1.644	.0080 .0013	4U 1943+36 XRS19434+364	

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H1953+654	298.32 65.42 19 53 17 65 25 25	98.09 18.44 7.49 78.52	297.24 64.52 19 48 57 64 31 15	298.74 66.42 19 54 58 66 25 16	299.48 66.32 19 57 56 66 19 05	297.94 64.42 19 51 44 64 25 29	.628	.0021 .0006	3U 1956+65		
1H1954+575	298.73 57.57 19 54 54 57 34 11	90.89 14.68 339.65 74.04	297.61 57.15 19 50 25 57 08 57	299.55 58.16 19 58 11 58 09 47	299.87 57.98 19 59 29 57 58 48	297.94 56.97 19 51 44 56 58 16	.365	.0038 .0008			
1H1956+115	299.25 11.57 19 56 59 11 34 18	51.30 -9.32 304.20 31.61	299.16 11.56 19 56 39 11 33 52	299.32 11.60 19 57 17 11 36 07	299.33 11.58 19 57 18 11 34 43	299.17 11.54 19 56 40 11 32 28	.004	.1116 .0018	2S 1957+115 CGS1957+115	4U 1957+11 XRS19570+115	 (R)
1H1956+350	299.04 35.05 19 56 09 35 02 54	71.29 3.12 312.86 54.26	299.00 35.04 19 55 59 35 02 40	299.07 35.07 19 56 17 35 03 56	299.08 35.05 19 56 18 35 03 08	299.00 35.03 19 56 00 35 01 53	.001	1.1710 .0112	4U 1956+35 CGS1956+350	Cyg X-1 XRS19564+350	HDE226868 (R)
1H1958+325	299.51 32.58 19 58 02 32 34 41	69.39 1.48 312.15 51.79	298.38 32.28 19 53 30 32 16 58	300.63 32.92 20 02 30 32 55 00	300.65 32.86 20 02 35 32 51 48	298.40 32.23 19 53 35 32 13 48	.112	.0144 .0006	4U 1954+31		
1H1958+406	299.59 40.67 19 58 22 40 40 09	76.32 5.69 317.29 59.35	299.21 40.59 19 56 51 40 35 21	299.93 40.82 19 59 43 40 49 12	299.97 40.75 19 59 52 40 44 53	299.25 40.52 19 57 01 40 31 03	.046	.0173 .0010	4U 1957+40	XRS19572+406	Cyg A Cluster (R)
1H2003+511	300.99 51.19 20 03 57 51 11 12	85.89 10.36 330.46 68.22	299.72 50.79 19 58 52 50 47 33	302.07 51.78 20 08 15 51 46 41	302.29 51.57 20 09 08 51 33 59	299.94 50.59 19 59 46 50 35 08	.446	.0033 .0006			
1H2004+729	301.18 72.95 20 04 42 72 56 49	105.74 20.82 44.69 77.67	301.49 71.94 20 05 57 71 56 10	299.62 73.86 19 58 29 73 51 35	300.83 73.96 20 03 18 73 57 25	302.58 72.02 20 10 18 72 01 24	.696	.0028 .0008			
1H2005+162	301.36 16.26 20 05 26 16 15 28	56.43 -8.64 307.95 35.66	299.95 16.09 19 59 48 16 05 20	302.66 16.80 20 10 39 16 47 46	302.77 16.42 20 11 04 16 25 03	300.06 15.71 20 00 14 15 42 41	1.057	.0046 .0015			
1H2006+646	301.62 64.66 20 06 27 64 39 46	98.05 16.85 6.43 76.95	300.45 63.79 20 01 49 63 47 17	302.23 65.64 20 08 54 65 38 22	302.85 65.53 20 11 24 65 31 40	301.05 63.68 20 04 11 63 41 02	.564	.0024 .0006	4U 2003+64	XRS20036+643	

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H2010-697	302.50 -69.77 20 10 00 -69 46 22	325.63 -32.55 286.17 -48.15	299.67 -70.01 19 58 40 -70 00 40	305.13 -69.37 20 20 31 -69 22 22	305.26 -69.49 20 21 03 -69 29 24	299.77 -70.13 19 59 05 -70 07 55	.252	.0054 .0006	4U 1955-68		
1H2012-567	303.20 -56.72 20 12 49 -56 43 03	341.17 -33.98 291.73 -35.75	302.54 -56.77 20 10 08 -56 45 59	303.82 -56.57 20 15 17 -56 34 16	303.87 -56.67 20 15 28 -56 39 55	302.58 -56.86 20 10 19 -56 51 40	.072	.0130 .0008	2A 2009-569	XRS20091-569	STR2008-569 (R)
1H2016+616	304.24 61.66 20 16 56 61 39 49	95.98 14.32 357.90 74.50	303.37 61.21 20 13 28 61 12 25	304.79 62.22 20 19 10 62 13 22	305.13 62.11 20 20 31 62 06 52	303.70 61.10 20 14 48 61 06 07	.234	.0034 .0005			
1H2016+772	304.17 77.29 20 16 39 77 17 38	110.28 22.09 60.82 75.33	303.02 78.03 20 12 04 78 02 01	306.13 76.65 20 24 30 76 39 06	305.19 76.55 20 20 45 76 32 58	302.00 77.92 20 08 00 77 55 12	.370	.0030 .0005			
1H2017-021	304.46 -2.12 20 17 50 -02 06 58	41.67 -20.63 306.27 17.09	303.46 -2.23 20 13 49 -02 13 33	305.40 -1.76 20 21 36 -01 45 18	305.46 -2.01 20 21 51 -02 00 20	303.52 -2.48 20 14 04 -02 28 36	.516	.0030 .0007			
1H2018-529	304.61 -52.97 20 18 26 -52 58 22	345.71 -34.81 293.89 -32.36	303.17 -53.06 20 12 40 -53 03 18	305.92 -52.60 20 23 39 -52 36 17	306.05 -52.87 20 24 10 -52 52 24	303.28 -53.33 20 13 07 -53 19 35	.482	.0046 .0009			STR2018-531
1H2018+366	304.53 36.69 20 18 07 36 41 12	75.09 .29 320.98 54.19	303.36 36.34 20 13 26 36 20 30	305.66 37.11 20 22 39 37 06 47	305.71 37.02 20 22 50 37 01 13	303.41 36.25 20 13 38 36 15 00	.200	.0080 .0007	4U 2019+39?	XRS20190+395	SNR 2015+36 (R)
1H2018+439	304.73 43.90 20 18 55 43 54 11	81.12 4.27 326.93 60.67	304.38 43.81 20 17 30 43 48 41	305.04 44.06 20 20 09 44 03 39	305.09 43.99 20 20 21 43 59 36	304.43 43.74 20 17 42 43 44 39	.041	.0114 .0006	4U 2028+42		
1H2020-043	305.02 -4.39 20 20 05 -04 23 41	39.80 -22.21 306.28 14.75	304.02 -4.52 20 16 05 -04 30 56	305.97 -4.04 20 23 52 -04 02 36	306.03 -4.27 20 24 06 -04 16 22	304.08 -4.75 20 16 18 -04 44 42	.472	.0034 .0007			
1H2030+407	307.52 40.76 20 30 04 40 45 33	79.76 .77 327.72 56.93	307.48 40.75 20 29 55 40 45 06	307.55 40.78 20 30 11 40 46 39	307.55 40.77 20 30 13 40 46 00	307.49 40.74 20 29 56 40 44 27	.001	.5927 .0046	4U 2030+40 CGS2030+407	Cyg X-3 XRS20305+407	V1521 Cyg (R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY	NON X-RAY
1H2031-330	307.76 -33.05 20 31 02 -33 02 59	10.20 -34.85 301.89 -13.69	307.00 -33.13 20 28 00 -33 07 48	308.47 -32.81 20 33 52 -32 48 31	308.52 -32.97 20 34 04 -32 57 54	307.05 -33.29 20 28 11 -33 17 13	.206	.0102 .0015		AT Mic (R)
1H2032-358	308.09 -35.83 20 32 22 -35 49 49	6.92 -35.67 301.44 -16.45	306.94 -35.94 20 27 45 -35 56 14	309.16 -35.46 20 36 37 -35 27 43	309.24 -35.71 20 36 57 -35 42 45	307.02 -36.19 20 28 04 -36 11 22	.484	.0063 .0012		
1H2034+493	308.61 49.31 20 34 26 49 18 49	87.08 5.28 337.85 63.94	307.27 48.82 20 29 05 48 49 26	309.81 49.96 20 39 13 49 57 22	309.98 49.79 20 39 54 49 47 15	307.45 48.66 20 29 47 48 39 33	.404	.0037 .0006	4U 2056+49	
1H2034+734	308.52 73.43 20 34 05 73 25 51	107.29 19.21 44.85 75.49	308.70 72.43 20 34 47 72 25 40	307.63 74.40 20 30 31 74 24 16	308.32 74.43 20 33 17 74 26 01	309.32 72.45 20 37 16 72 27 14	.376	.0052 .0008		
1H2036+170	309.23 17.04 20 36 56 17 02 39	61.36 -14.49 317.06 34.30	307.45 16.65 20 29 48 16 38 46	310.90 17.79 20 43 34 17 47 32	311.03 17.43 20 44 06 17 25 36	307.59 16.28 20 30 20 16 16 58	1.345	.0029 .0011		
1H2041-108	310.49 -10.88 20 41 57 -10 52 41	36.06 -29.96 309.99 7.12	309.95 -10.93 20 39 48 -10 56 01	310.98 -10.66 20 43 56 -10 39 40	311.03 -10.82 20 44 06 -10 49 17	310.00 -11.09 20 39 59 -11 05 38	.174	.0105 .0012	2A 2040-115 XRS20407-115	Mkn 509 (R)
1H2041+352	310.40 35.23 20 41 36 35 13 57	76.75 -4.40 327.20 50.96	309.14 35.09 20 36 32 35 05 31	311.38 35.91 20 45 29 35 54 49	311.67 35.36 20 46 41 35 21 36	309.44 34.54 20 37 46 34 32 38	1.208	.0011 .0005		
1H2041+756	310.47 75.62 20 41 51 75 36 54	109.53 19.97 52.75 74.55	310.92 74.61 20 43 40 74 36 48	308.87 76.55 20 35 29 76 32 52	309.95 76.62 20 39 47 76 36 56	311.87 74.67 20 47 27 74 40 22	.516	.0035 .0007	3U 2041+75	VW Cep (R)
1H2044-032	311.15 -3.25 20 44 35 -03 15 04	44.11 -27.03 312.69 14.31	309.64 -3.43 20 38 33 -03 25 31	312.53 -2.64 20 50 08 -02 38 06	312.65 -3.07 20 50 37 -03 04 28	309.76 -3.87 20 39 02 -03 51 54	1.365	.0038 .0013		
1H2045-733	311.26 -73.31 20 45 02 -73 18 50	320.71 -34.36 288.10 -52.46	308.47 -73.54 20 33 51 -73 32 34	313.59 -72.84 20 54 21 -72 50 13	313.97 -73.05 20 55 53 -73 02 55	308.80 -73.76 20 35 12 -73 45 48	.394	.0043 .0007		STR2038-736

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H2048-224	312.09 -22.43 20 48 20 -22 25 57	23.99 -35.73 308.42 -4.43	311.01 -22.59 20 44 02 -22 35 25	313.10 -22.06 20 52 22 -22 03 21	313.16 -22.27 20 52 38 -22 16 03	311.07 -22.80 20 44 17 -22 48 10	.440	.0042 .0008		
1H2050-558	312.62 -55.86 20 50 28 -55 51 22	341.71 -39.26 298.22 -36.51	310.88 -56.10 20 43 30 -56 05 54	314.23 -55.43 20 56 54 -55 25 46	314.34 -55.59 20 57 20 -55 35 24	310.97 -56.26 20 43 53 -56 15 42	.344	.0052 .0007		
1H2050-006	312.71 -.65 20 50 49 -00 38 48	47.52 -27.08 314.98 16.38	312.06 -.74 20 48 14 -00 44 41	313.30 -.38 20 53 12 -00 22 40	313.35 -.55 20 53 24 -00 32 54	312.11 -.92 20 48 26 -00 54 55	.230	.0063 .0008		
1H2050+310	312.54 31.09 20 50 10 31 05 23	74.63 -8.39 327.18 46.45	312.49 31.08 20 49 57 31 04 45	312.59 31.12 20 50 21 31 07 00	312.60 31.10 20 50 23 31 06 01	312.50 31.06 20 49 59 31 03 46	.002	.1873 .0021	4U 2046+31 XRS20467+319	Cygnus Loop (R)
1H2100-526	315.06 -52.69 21 00 15 -52 41 12	345.55 -41.12 301.17 -34.01	312.89 -53.03 20 51 33 -53 01 58	317.02 -52.04 21 08 05 -52 02 39	317.20 -52.30 21 08 48 -52 18 05	313.05 -53.30 20 52 11 -53 17 46	.756	.0049 .0010		
1H2102-796	315.64 -79.63 21 02 34 -79 38 04	313.29 -32.72 284.24 -58.48	310.18 -79.96 20 40 43 -79 57 43	319.42 -78.89 21 17 41 -78 53 41	320.73 -79.22 21 22 55 -79 13 15	311.31 -80.32 20 45 14 -80 19 24	.820	.0018 .0006		
1H2102+392	315.63 39.22 21 02 30 39 13 22	82.50 -5.01 336.10 52.72	314.44 38.82 20 57 46 38 49 26	316.72 39.76 21 06 53 39 45 50	316.83 39.61 21 07 18 39 36 34	314.55 38.67 20 58 11 38 40 17	.348	.0041 .0006		
1H2105+460	316.49 46.05 21 05 57 46 02 45	87.98 -.88 343.20 58.28	315.27 45.52 21 01 03 45 31 29	317.68 46.62 21 10 41 46 37 22	317.74 46.55 21 10 57 46 33 13	315.33 45.46 21 01 19 45 27 25	.164	.0105 .0007	4U 2048+44	
1H2107-097	316.84 -9.73 21 07 20 -09 43 42	40.54 -35.06 316.35 6.50	315.84 -9.94 21 03 22 -09 56 33	317.78 -9.36 21 11 07 -09 21 31	317.83 -9.51 21 11 19 -09 30 41	315.89 -10.10 21 03 33 -10 05 44	.320	.0045 .0006		
1H2108+019	317.14 1.96 21 08 34 01 57 43	52.70 -29.46 320.22 17.57	316.50 1.85 21 05 59 01 51 16	317.73 2.25 21 10 54 02 15 08	317.79 2.07 21 11 08 02 04 10	316.56 1.67 21 06 13 01 40 18	.248	.0079 .0011		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H2109+818	317.35 81.89 21 09 25 81 53 33	115.82 22.56 71.29 71.13	316.29 82.38 21 05 10 82 22 35	319.39 81.48 21 17 34 81 28 57	318.30 81.41 21 13 11 81 24 23	315.10 82.29 21 00 24 82 17 29	.179	.0029 .0004		(R)
1H2116-005	319.12 -.56 21 16 29 -00 33 32	51.49 -32.49 321.37 14.56	317.90 -.77 21 11 35 -00 46 25	320.23 -.01 21 20 56 -00 00 21	320.35 -.34 21 21 22 -00 20 38	318.01 -1.11 21 12 02 -01 06 42	.875	.0037 .0009		
1H2118-342	319.52 -34.26 21 18 05 -34 15 26	10.73 -44.70 311.28 -17.64	318.34 -34.50 21 13 22 -34 29 49	320.63 -33.86 21 22 32 -33 51 45	320.69 -34.01 21 22 46 -34 00 22	318.40 -34.64 21 13 35 -34 38 30	.304	.0047 .0006		
1H2120-101	320.08 -10.14 21 20 19 -10 08 10	41.89 -38.10 319.29 5.16	319.04 -10.23 21 16 10 -10 13 50	320.98 -9.62 21 23 54 -09 37 05	321.12 -10.04 21 24 27 -10 02 18	319.18 -10.65 21 16 43 -10 39 05	.884	.0015 .0005		
1H2120+184	320.02 18.47 21 20 05 18 27 54	69.19 -21.72 329.21 32.21	318.71 18.17 21 14 51 18 10 15	321.22 19.06 21 24 53 19 03 23	321.34 18.75 21 25 21 18 45 01	318.84 17.87 21 15 20 17 51 58	.827	.0036 .0008		II Zw 122 RNGC7056
1H2121-584	320.38 -58.48 21 21 32 -58 28 53	337.06 -42.76 301.98 -40.50	317.26 -58.96 21 09 02 -58 57 53	323.11 -57.60 21 32 27 -57 36 08	323.42 -57.92 21 33 39 -57 55 27	317.52 -59.30 21 10 04 -59 17 59	1.211	.0062 .0023		STR2126-580
1H2124-529	321.10 -52.98 21 24 24 -52 58 30	344.24 -44.65 305.19 -35.59	319.50 -53.27 21 18 00 -53 15 59	322.57 -52.51 21 30 16 -52 30 23	322.68 -52.66 21 30 43 -52 39 44	319.60 -53.43 21 18 25 -53 25 30	.340	.0044 .0006		
1H2128+120	322.05 12.02 21 28 11 12 01 04	65.19 -27.39 328.69 25.49	321.81 11.97 21 27 15 11 58 19	322.26 12.13 21 29 01 12 07 46	322.28 12.06 21 29 07 12 03 49	321.84 11.91 21 27 21 11 54 22	.032	.0181 .0008	2A 2127+120 4U 2129+12 CGS2127+119 XRS21275+119	NGC7078 M15 (R)
1H2129-624	322.41 -62.48 21 29 39 -62 29 01	331.50 -42.28 300.91 -44.55	320.35 -62.82 21 21 23 -62 49 04	324.22 -61.94 21 36 53 -61 56 10	324.43 -62.12 21 37 43 -62 07 11	320.54 -63.01 21 22 09 -63 00 25	.416	.0045 .0008		STR2133-624
1H2131+473	322.88 47.33 21 31 30 47 19 49	91.99 -3.06 351.30 56.86	321.67 46.76 21 26 41 46 45 38	324.08 47.92 21 36 18 47 55 17	324.11 47.89 21 36 26 47 53 13	321.71 46.73 21 26 49 46 43 37	.084	.0207 .0007	4U 2129+47 CGS2129+470 XRS21296+471	V1727 Cyg (R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY		NON X-RAY
1H2132-277	323.03 -27.74 21 32 07 -27 44 25	20.61 -46.67 316.40 -12.43	321.92 -27.92 21 27 40 -27 55 12	324.03 -27.28 21 36 07 -27 16 48	324.14 -27.55 21 36 33 -27 33 06	322.02 -28.19 21 28 05 -28 11 36	.570	.0040 .0008			
1H2138+579	324.68 57.92 21 38 42 57 55 18	99.86 4.12 7.29 64.10	323.31 57.23 21 33 14 57 14 02	325.83 58.72 21 43 19 58 43 21	326.09 58.59 21 44 22 58 35 38	323.57 57.11 21 34 17 57 06 38	.376	.0034 .0005	4U 2135+57 XRS21370+567	Cep X-4?	HR 8281? (R)
1H2140+433	325.02 43.31 21 40 04 43 18 38	90.43 -7.06 349.56 52.68	324.75 43.23 21 38 59 43 13 36	325.24 43.45 21 40 57 43 27 00	325.29 43.39 21 41 08 43 23 39	324.80 43.17 21 39 11 43 10 15	.028	.0164 .0007	CGS2140+433	XRS21407+433	SS Cyg (R)
1H2140+460	325.15 46.09 21 40 37 46 05 14	92.34 -5.03 352.30 54.94	323.90 45.59 21 35 35 45 35 33	326.27 46.73 21 45 05 46 43 51	326.43 46.57 21 45 43 46 34 05	324.06 45.43 21 36 14 45 25 58	.392	.0034 .0006			
1H2142+248	325.54 24.87 21 42 08 24 52 12	77.97 -21.02 337.90 36.16	324.20 24.51 21 36 48 24 30 41	326.73 25.53 21 46 54 25 32 03	326.88 25.22 21 47 31 25 13 01	324.36 24.20 21 37 26 24 11 48	.867	.0035 .0008			
1H2142+380	325.63 38.09 21 42 30 38 05 06	87.31 -11.31 345.98 47.96	325.55 38.07 21 42 13 38 03 54	325.69 38.12 21 42 45 38 07 21	325.70 38.11 21 42 47 38 06 18	325.57 38.05 21 42 15 38 02 51	.002	1.9370 .0213	2A 2142+381 Cyg X-2 XRS21426+380	4U 2142+38 CGS2142+380	V1341 Cyg (R)
1H2148-200	327.09 -20.00 21 48 22 -20 00 05	33.11 -48.22 322.54 -6.36	326.04 -20.21 21 44 10 -20 12 43	328.05 -19.54 21 52 11 -19 32 25	328.14 -19.78 21 52 33 -19 47 05	326.14 -20.46 21 44 32 -20 27 27	.520	.0028 .0006			A2384 (R)
1H2150+171	327.55 17.17 21 50 12 17 10 28	73.54 -27.84 336.37 28.35	326.55 16.88 21 46 11 16 52 42	328.48 17.64 21 53 56 17 38 30	328.56 17.47 21 54 14 17 27 56	326.63 16.70 21 46 30 16 42 11	.380	.0048 .0008			A2390 (R)
1H2156-304	329.04 -30.45 21 56 10 -30 27 07	17.76 -52.29 320.54 -16.77	328.90 -30.48 21 55 35 -30 28 35	329.17 -30.39 21 56 41 -30 23 17	329.19 -30.43 21 56 45 -30 25 38	328.92 -30.52 21 55 39 -30 30 57	.011	.0346 .0009	H 2154-304		PKS2155-304 (R)
1H2158-602	329.57 -60.22 21 58 17 -60 13 02	332.20 -46.35 306.63 -44.12	328.28 -60.46 21 53 08 -60 27 34	330.67 -59.81 22 02 41 -59 48 52	330.84 -59.96 22 03 22 -59 57 44	328.44 -60.61 21 53 46 -60 36 37	.230	.0078 .0009	2A 2155-609 XRS21554-609	1M 2140-60 4U 2126-60	STR2159-602 (R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY	NON X-RAY
1H2158-150	329.53 -15.05 21 58 06 -15 02 46	41.34 -48.53 326.42 -2.48	328.51 -15.28 21 54 03 -15 16 48	330.46 -14.59 22 01 49 -14 35 38	330.54 -14.81 22 02 09 -14 48 28	328.59 -15.49 21 54 22 -15 29 41	.456	.0029 .0005		2155-152 (R)
1H2158+046	329.58 4.60 21 58 19 04 36 05	64.16 -37.86 333.37 15.93	328.59 4.39 21 54 21 04 23 39	330.46 5.11 22 01 51 05 06 29	330.58 4.81 22 02 18 04 48 25	328.70 4.09 21 54 48 04 05 37	.644	.0022 .0006		2201+044? (R)
1H2159+642	329.78 64.23 21 59 07 64 13 46	105.78 7.45 22.75 65.96	328.43 63.42 21 53 43 63 25 20	330.89 65.11 22 03 34 65 06 44	331.21 65.02 22 04 50 65 01 25	328.73 63.34 21 54 56 63 20 20	.320	.0037 .0005		
1H2200+609	330.04 60.95 22 00 10 60 56 45	103.89 4.76 16.59 63.96	329.20 60.60 21 56 48 60 35 54	330.61 61.41 22 02 25 61 24 38	330.90 61.29 22 03 36 61 17 16	329.50 60.48 21 57 59 60 28 43	.199	.0058 .0008		
1H2202+501	330.71 50.18 22 02 49 50 10 36	97.80 -4.13 1.86 56.03	329.41 49.62 21 57 38 49 37 09	331.86 50.86 22 07 26 50 51 45	332.03 50.72 22 08 07 50 43 11	329.59 49.48 21 58 20 49 28 47	.360	.0031 .0005		
1H2205+538	331.33 53.90 22 05 18 53 53 48	100.29 -1.34 6.85 58.62	330.02 53.38 22 00 05 53 22 49	332.32 54.62 22 09 16 54 37 23	332.66 54.40 22 10 38 54 23 55	330.37 53.16 22 01 28 53 09 44	.550	.0029 .0007	4U 2206+54 A 2204+54 XRS22063+544	 (R)
1H2206-052	331.68 -5.22 22 06 42 -05 13 07	55.43 -45.52 331.82 6.00	330.36 -5.52 22 01 26 -05 31 00	332.87 -4.58 22 11 28 -04 34 45	333.00 -4.92 22 11 59 -04 55 04	330.49 -5.86 22 01 56 -05 51 21	.966	.0038 .0009		A2415 (R)
1H2207+268	331.81 26.83 22 07 13 26 49 58	83.94 -23.28 345.24 35.58	330.73 26.54 22 02 54 26 32 07	332.75 27.40 22 10 59 27 23 56	332.90 27.12 22 11 34 27 07 18	330.88 26.26 22 03 30 26 15 37	.612	.0032 .0008	4U 2209+26 XRS22092+261	
1H2207+455	331.78 45.60 22 07 08 45 35 48	95.69 -8.27 358.21 51.91	330.87 45.28 22 03 28 45 16 36	332.54 46.08 22 10 09 46 05 00	332.71 45.91 22 10 49 45 54 34	331.04 45.11 22 04 09 45 06 18	.298	.0047 .0007		AR Lac (R)
1H2207+829	331.78 82.96 22 07 05 82 57 41	118.08 21.96 72.47 69.00	331.46 83.51 22 05 50 83 30 21	333.23 82.45 22 12 56 82 26 52	332.04 82.42 22 08 10 82 24 59	330.09 83.47 22 00 21 83 28 10	.173	.0050 .0006		A2387? (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX ERROR	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC			X-RAY	NON X-RAY
1H2209-470	332.33 -47.06 22 09 19 -47 03 34	349.87 -53.20 316.05 -33.08	331.34 -47.23 22 05 21 -47 13 41	333.18 -46.69 22 12 43 -46 41 05	333.31 -46.88 22 13 14 -46 52 55	331.46 -47.43 22 05 51 -47 25 39	.296	.0065 .0009	2A 2209-471 H 2209-471	NGC7213 STR2206-474 (R)
1H2213+484	333.38 48.47 22 13 31 48 28 06	98.24 -6.54 2.44 53.61	332.14 47.91 22 08 32 47 54 24	334.55 49.11 22 18 12 49 06 24	334.65 49.02 22 18 36 49 00 58	332.24 47.82 22 08 57 47 49 05	.224	.0054 .0005		
1H2214-358	333.66 -35.84 22 14 38 -35 50 08	8.71 -56.31 322.23 -23.20	332.63 -36.04 22 10 31 -36 02 32	334.55 -35.38 22 18 12 -35 22 49	334.68 -35.62 22 18 43 -35 37 13	332.76 -36.28 22 11 01 -36 17 03	.444	.0044 .0008		
1H2214-313	333.54 -31.40 22 14 10 -31 23 45	16.71 -56.22 323.95 -19.06	332.22 -31.71 22 08 52 -31 42 33	334.73 -30.80 22 18 54 -30 48 17	334.86 -31.07 22 19 27 -31 04 07	332.35 -31.98 22 09 22 -31 58 33	.671	.0037 .0008	2A 2151-316	
1H2214+589	333.58 58.91 22 14 19 58 54 35	104.16 2.07 15.69 61.29	331.97 58.32 22 07 53 58 18 55	334.57 59.81 22 18 16 59 48 19	335.24 59.48 22 20 58 59 29 00	332.64 58.01 22 10 34 58 00 24	.940	.0024 .0009	4U 2238+60 XRS22389+607	
1H2217-392	334.39 -39.28 22 17 33 -39 16 51	2.41 -56.50 321.32 -26.60	333.14 -39.57 22 12 34 -39 34 29	335.51 -38.77 22 22 01 -38 46 25	335.62 -38.97 22 22 29 -38 58 26	333.25 -39.78 22 13 01 -39 46 39	.440	.0031 .0006		STR2220-389
1H2218+197	334.55 19.79 22 18 11 19 47 26	81.18 -30.34 344.46 28.13	333.52 19.51 22 14 04 19 30 32	335.46 20.32 22 21 50 20 19 28	335.58 20.07 22 22 19 20 03 59	333.64 19.25 22 14 34 19 15 08	.564	.0033 .0007		
1H2219-527	334.78 -52.73 22 19 07 -52 43 42	340.20 -52.46 314.71 -38.86	333.48 -52.99 22 13 54 -52 59 30	335.88 -52.23 22 23 30 -52 14 04	336.07 -52.45 22 24 16 -52 27 03	333.66 -53.21 22 14 38 -53 12 42	.404	.0042 .0007		STR2218-528
1H2221-017	335.35 -1.79 22 21 23 -01 47 14	62.54 -46.38 336.51 7.89	334.36 -2.01 22 17 26 -02 00 37	336.23 -1.28 22 24 53 -01 16 49	336.34 -1.56 22 25 20 -01 33 48	334.47 -2.29 22 17 53 -02 17 36	.608	.0027 .0007	2A 2220-022 H 2216-027 XRS22204-022	A2440 3C445? (R)
1H2226-269	336.73 -26.94 22 26 54 -26 56 40	25.48 -58.50 328.42 -16.00	335.63 -27.20 22 22 32 -27 12 17	337.71 -26.45 22 30 49 -26 26 43	337.82 -26.68 22 31 15 -26 40 32	335.74 -27.44 22 22 57 -27 26 12	.500	.0031 .0006	2A 2237-256 1M 2244-24 XRS22204-022	NGC7313 NGC7314 (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H2229-542	337.39 -54.21 22 29 33 -54 12 29	336.80 -53.07 315.58 -40.90	335.96 -54.53 22 23 49 -54 31 58	338.59 -53.66 22 34 20 -53 39 31	338.80 -53.87 22 35 10 -53 52 00	336.16 -54.75 22 24 37 -54 44 43	.429	.0059 .0012		
1H2229+156	337.35 15.69 22 29 24 15 41 10	80.61 -35.21 345.33 23.30	336.36 15.37 22 25 26 15 22 22	338.26 16.17 22 33 03 16 10 22	338.34 15.99 22 33 22 15 59 41	336.44 15.20 22 25 45 15 11 44	.388	.0046 .0008		
1H2232+405	338.09 40.54 22 32 22 40 32 33	96.78 -15.02 359.88 45.17	337.05 40.22 22 28 12 40 13 00	338.96 41.09 22 35 50 41 05 25	339.14 40.86 22 36 33 40 51 33	337.24 39.99 22 28 56 39 59 19	.453	.0066 .0013		
1H2233+518	338.48 51.89 22 33 54 51 53 25	102.84 -5.36 10.40 54.29	337.39 51.48 22 29 34 51 29 01	339.37 52.46 22 37 27 52 27 21	339.58 52.29 22 38 19 52 17 13	337.61 51.32 22 30 26 51 19 05	.333	.0048 .0007		
1H2236-372	339.01 -37.30 22 36 03 -37 17 46	5.01 -60.41 325.92 -26.27	338.33 -37.45 22 33 18 -37 27 08	339.61 -36.98 22 38 26 -36 58 56	339.70 -37.14 22 38 48 -37 08 11	338.41 -37.61 22 33 39 -37 36 26	.191	.0061 .0007	H 2233-378	
1H2236+497	339.07 49.75 22 36 17 49 44 46	102.11 -7.41 8.66 52.37	337.79 49.19 22 31 09 49 11 18	340.25 50.41 22 40 59 50 24 25	340.38 50.29 22 41 32 50 17 23	337.93 49.07 22 31 43 49 04 26	.292	.0042 .0005		
1H2238-123	339.60 -12.34 22 38 24 -12 20 31	52.71 -55.96 336.54 -3.48	338.36 -12.79 22 33 26 -12 47 07	340.81 -11.81 22 43 13 -11 48 50	340.84 -11.89 22 43 21 -11 53 36	338.39 -12.87 22 33 34 -12 51 54	.222	.0035 .0009		
1H2239-454	339.85 -45.44 22 39 24 -45 26 40	349.24 -58.63 322.51 -33.89	338.49 -45.77 22 33 56 -45 46 07	341.03 -44.87 22 44 06 -44 52 14	341.20 -45.10 22 44 48 -45 06 16	338.65 -46.01 22 34 36 -46 00 22	.528	.0023 .0005		STR2242-453
1H2239+294	339.99 29.46 22 39 57 29 27 40	92.07 -25.30 354.58 34.73	338.93 29.07 22 35 43 29 04 23	340.98 29.98 22 43 54 29 59 01	341.06 29.84 22 44 14 29 50 26	339.01 28.93 22 36 03 28 55 53	.320	.0048 .0006		B2 2240+29
1H2240-480	340.14 -48.08 22 40 34 -48 05 00	344.58 -57.65 321.25 -36.33	338.66 -48.35 22 34 38 -48 20 50	341.30 -47.42 22 45 12 -47 25 18	341.61 -47.80 22 46 26 -47 48 03	338.95 -48.73 22 35 48 -48 43 59	.864	.0014 .0005		STR2247-472

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H2245-646	341.40 -64.69 22 45 35 -64 41 14	322 09 -47.89 309.89 -50.81	339.93 -65.01 22 39 42 -65 00 49	342.54 -64.18 22 50 08 -64 10 46	342.84 -64.35 22 51 20 -64 20 48	340.22 -65.19 22 40 52 -65 11 09	.296	.0066 .0010		STR2246-647
1H2245-600	341.43 -60.00 22 45 42 -60 00 11	327.15 -51.24 314.00 -46.99	339.13 -60.52 22 36 30 -60 31 15	343.28 -59.17 22 53 07 -59 10 20	343.65 -59.45 22 54 36 -59 26 48	339.48 -60.81 22 37 54 -60 48 23	.830	.0040 .0009		STR2254-590
1H2251-710	342.85 -71.04 22 51 23 -71 02 23	315.67 -43.36 303.77 -56.05	339.58 -71.79 22 38 18 -71 47 09	345.06 -69.99 23 00 14 -69 59 33	345.87 -70.24 23 03 28 -70 14 25	340.39 -72.06 22 41 32 -72 03 28	.938	.0046 .0015		STR2242-716
1H2251-179	342.92 -17.97 22 51 41 -17 57 56	46.03 -61.43 337.37 -9.90	341.60 -18.32 22 46 24 -18 19 05	344.11 -17.31 22 56 25 -17 18 51	344.24 -17.60 22 56 57 -17 36 16	341.73 -18.61 22 46 55 -18 36 36	.817	.0055 .0012	2A 2251-179 XRS22514-178	MR 2251-178 (R)
1H2251-035	342.99 -3.59 22 51 57 -03 35 39	68.27 -53.31 342.94 3.36	342.32 -3.76 22 49 16 -03 45 30	343.58 -3.24 22 54 18 -03 14 22	343.66 -3.43 22 54 37 -03 25 47	342.40 -3.95 22 49 35 -03 56 55	.280	.0080 .0014	H 2252-035	AO Psc (R)
1H2251+167	342.97 16.80 22 51 53 16 47 59	86.85 -37.47 351.17 22.13	342.40 16.64 22 49 35 16 38 15	343.48 17.11 22 53 54 17 06 35	343.55 16.96 22 54 11 16 57 37	342.47 16.49 22 49 52 16 29 19	.186	.0075 .0009	4U 2259+16 XRS22591+161	HD216489 (R)
1H2251+450	342.91 45.07 22 51 38 45 04 17	102.22 -12.75 7.70 47.06	341.99 44.73 22 47 57 44 43 40	343.70 45.56 22 54 47 45 33 18	343.84 45.41 22 55 21 45 24 26	342.14 44.58 22 48 32 44 34 56	.260	.0076 .0009		EV Lac? (R)
1H2252+621	343.16 62.17 22 52 39 62 10 28	109.87 2.57 27.02 59.90	341.78 61.56 22 47 06 61 33 21	344.24 62.93 22 56 56 62 55 39	344.61 62.78 22 58 26 62 46 44	342.15 61.41 22 48 35 61 24 50	.404	.0049 .0009		
1H2253-810	343.43 -81.01 22 53 43 -81 00 51	308.28 -35.17 289.04 -62.68	337.97 -81.87 22 31 52 -81 52 12	346.42 -79.94 23 05 40 -79 56 33	347.92 -80.09 23 11 40 -80 05 31	339.66 -82.06 22 38 37 -82 03 18	.702	.0026 .0007		
1H2256+057	344.13 5.75 22 56 29 05 45 11	79.42 -47.13 347.63 11.55	342.99 5.43 22 51 58 05 25 48	345.15 6.33 23 00 36 06 19 43	345.26 6.07 23 01 01 06 04 26	343.10 5.18 22 52 24 05 10 33	.642	.0049 .0010		A2507? (R)

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY	NON X-RAY
1H2258+585	344.71 58.52 22 58 50 58 31 28	109.03 -1.06 22.93 56.85	343.34 57.83 22 53 22 57 49 54	346.07 59.24 23 04 17 59 14 08	346.13 59.20 23 04 32 59 12 08	343.40 57.80 22 53 37 57 47 58	.092	.0177 .0007	H 2309+59 XRS23086+597	G109.1-1.0 (R)
1H2301+086	345.35 8.68 23 01 23 08 40 47	83.35 -45.50 349.96 13.76	344.77 8.52 22 59 05 08 31 10	345.86 8.98 23 03 27 08 58 57	345.93 8.84 23 03 42 08 50 20	344.83 8.38 22 59 19 08 22 34	.183	.0098 .0010	2A 2259+085 4U 2300+08 XRS22595+085	NGC7469 (R)
1H2303-089	345.75 -8.96 23 03 00 -08 57 24	64.36 -58.93 343.43 -2.64	344.79 -9.28 22 59 09 -09 16 31	346.66 -8.50 23 06 37 -08 30 12	346.71 -8.64 23 06 51 -08 38 09	344.85 -9.41 22 59 23 -09 24 29	.288	.0061 .0007	2A 2302-088 4U 2305-07 XRS23022-088	
1H2303+039	345.86 3.94 23 03 27 03 56 17	79.81 -49.63 348.54 9.20	344.79 3.65 22 59 09 03 38 49	346.82 4.51 23 07 17 04 30 28	346.94 4.23 23 07 45 04 13 41	344.91 3.37 22 59 37 03 22 02	.670	.0054 .0011		
1H2307-222	346.90 -22.22 23 07 35 -22 13 20	40.08 -66.46 339.17 -15.28	345.78 -22.36 23 03 08 -22 21 30	347.76 -21.56 23 11 02 -21 33 23	348.01 -22.08 23 12 02 -22 04 43	346.03 -22.88 23 04 07 -22 53 01	1.144	.0015 .0007		A2550 (R)
1H2308-309	347.00 -30.91 23 08 00 -30 54 51	17.86 -67.72 335.47 -23.24	345.84 -31.14 23 03 21 -31 08 13	347.95 -30.30 23 11 47 -30 17 42	348.16 -30.68 23 12 38 -30 40 52	346.05 -31.53 23 04 10 -31 31 36	.856	.0017 .0006		PKS2306-312?
1H2313+783	348.34 78.34 23 13 21 78 20 39	118.10 16.66 60.68 66.17	349.53 78.80 23 18 06 78 48 13	347.97 77.83 23 11 52 77 50 02	347.24 77.88 23 08 57 77 52 49	348.75 78.85 23 14 58 78 51 16	.163	.0038 .0004		
1H2314+285	348.51 28.56 23 14 01 28 33 19	99.00 -29.59 1.97 30.54	347.29 28.16 23 09 10 28 09 48	349.58 29.19 23 18 19 29 11 26	349.73 28.94 23 18 54 28 56 11	347.44 27.91 23 09 46 27 54 43	.640	.0049 .0011		
1H2315-423	348.97 -42.39 23 15 51 -42 23 33	348.55 -65.86 331.24 -34.22	347.73 -42.82 23 10 56 -42 48 57	350.12 -41.87 23 20 28 -41 52 19	350.18 -41.96 23 20 43 -41 57 22	347.79 -42.90 23 11 10 -42 54 04	.192	.0094 .0008	2A 2315-428 XRS23153-428	NGC7582 (R)
1H2315+257	348.79 25.70 23 15 10 25 42 16	97.89 -32.29 .77 27.88	346.94 25.06 23 07 45 25 03 41	350.47 26.68 23 21 53 26 40 38	350.67 26.32 23 22 40 26 19 25	347.14 24.71 23 08 33 24 42 45	1.405	.0035 .0010		Mkn 322 3C463? (R)

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY	NON X-RAY
1H2318+417	349.58 41.76 23 18 18 41 45 25	105.43 -17.74 10.89 41.66	348.38 41.30 23 13 31 41 18 01	350.67 42.35 23 22 40 42 20 56	350.79 42.20 23 23 08 42 12 04	348.50 41.16 23 14 00 41 09 18	.344	.0038 .0005		
1H2319-582	349.80 -58.24 23 19 12 -58 14 07	323.74 -55.41 320.72 -47.98	347.07 -58.96 23 08 17 -58 57 49	351.94 -57.12 23 27 45 -57 07 17	352.42 -57.45 23 29 39 -57 27 05	347.53 -59.31 23 10 06 -59 18 40	1.323	.0027 .0008		STR2323-581
1H2319+188	350.00 18.87 23 19 59 18 52 21	95.56 -38.95 358.64 21.23	349.42 18.71 23 17 40 18 42 25	350.50 19.19 23 22 00 19 11 13	350.58 19.04 23 22 18 19 02 11	349.49 18.56 23 17 57 18 33 24	.188	.0071 .0008		A2572? (R)
1H2320+084	350.11 8.47 23 20 27 08 27 55	88.99 -48.22 354.30 11.69	349.21 8.22 23 16 49 08 13 07	350.92 8.95 23 23 40 08 57 01	351.02 8.71 23 24 05 08 42 35	349.31 7.98 23 17 14 07 58 42	.483	.0050 .0011		NGC7615? NGC7623?
1H2320+146	350.02 14.60 23 20 03 14 36 17	93.07 -42.78 356.78 17.34	349.01 14.33 23 16 02 14 19 47	350.90 15.15 23 23 34 15 09 05	351.02 14.88 23 24 05 14 52 31	349.14 14.06 23 16 33 14 03 18	.604	.0025 .0006		A2593 (R)
1H2321+585	350.31 58.56 23 21 13 58 33 46	111.75 -2.11 26.73 54.86	350.25 58.55 23 21 00 58 32 44	350.35 58.59 23 21 22 58 35 26	350.36 58.58 23 21 27 58 34 49	350.27 58.54 23 21 04 58 32 07	.001	.3214 .0028	4U 2321+58 XRS23212+585	Cas A (R)
1H2322-269	350.61 -26.96 23 22 26 -26 57 44	29.30 -70.77 340.36 -20.98	348.67 -27.49 23 14 39 -27 29 10	352.28 -25.95 23 29 08 -25 56 52	352.54 -26.41 23 30 09 -26 24 43	348.91 -27.96 23 15 38 -27 57 23	1.854	.0050 .0026		A2609
1H2323+165	350.85 16.55 23 23 23 16 33 04	95.21 -41.40 358.40 18.78	350.18 16.38 23 20 44 16 22 36	351.43 16.92 23 25 42 16 55 07	351.52 16.72 23 26 04 16 43 24	350.28 16.18 23 21 06 16 10 56	.280	.0060 .0009	2A 2322+166 4U 2315+15 XRS23221+166	A2589 (R)
1H2327-170	351.92 -17.02 23 27 39 -17 01 20	57.68 -68.55 345.78 -12.42	350.32 -17.52 23 21 17 -17 31 12	353.37 -16.23 23 33 28 -16 13 59	353.50 -16.51 23 34 00 -16 30 43	350.45 -17.80 23 21 48 -17 48 03	.976	.0033 .0011		
1H2336-864	354.15 -86.41 23 36 36 -86 24 37	304.30 -30.81 278.79 -65.94	346.94 -87.21 23 07 45 -87 12 20	355.43 -85.53 23 41 42 -85 31 30	358.71 -85.58 23 54 50 -85 34 44	352.05 -87.29 23 28 11 -87 17 32	.458	.0038 .0008		

CATALOG ENTRY	POSITION		ERROR BOX				AREA	FLUX	IDENTIFICATIONS		
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC		ERROR	X-RAY		NON X-RAY
1H2336+462	354.07 46.26 23 36 15 46 15 34	110.12 -14.52 17.88 43.73	352.96 45.86 23 31 50 45 51 31	355.03 46.82 23 40 06 46 48 55	355.19 46.65 23 40 44 46 38 58	353.12 45.70 23 32 29 45 41 44	.340	.0083 .0015			Lambda And (R)
1H2337+701	354.44 70.18 23 37 45 70 10 44	116.98 8.41 45.56 61.18	352.57 69.64 23 30 16 69 38 15	355.60 70.93 23 42 23 70 55 33	356.41 70.70 23 45 38 70 42 00	353.36 69.43 23 33 27 69 25 30	.575	.0077 .0018			
1H2343+090	355.87 9.04 23 43 28 09 02 38	97.18 -50.25 359.84 9.93	354.90 8.72 23 39 36 08 43 26	356.76 9.53 23 47 01 09 31 47	356.83 9.36 23 47 19 09 21 41	354.98 8.56 23 39 55 08 33 21	.368	.0056 .0010	4U 2344+08	XRS23440+086	A2657 (R)
1H2348-281	357.08 -28.15 23 48 19 -28 08 56	26.27 -76.57 345.43 -24.52	356.02 -28.51 23 44 04 -28 30 44	358.06 -27.64 23 52 14 -27 38 22	358.14 -27.78 23 52 32 -27 46 39	356.09 -28.65 23 44 22 -28 39 05	.308	.0048 .0006	2A 2344-285 XRS23448-285	4U 2344-27	Klemola 44 STR2345-284 (R)
1H2351-315	357.93 -31.59 23 51 42 -31 35 10	10.99 -76.86 344.46 -27.92	356.79 -31.89 23 47 09 -31 53 14	358.88 -30.99 23 55 32 -30 59 20	359.06 -31.27 23 56 13 -31 16 29	356.96 -32.18 23 47 49 -32 10 34	.644	.0024 .0006	4U 0009-33		
1H2352+109	358.07 10.95 23 52 17 10 56 57	101.38 -49.26 2.64 10.80	357.09 10.65 23 48 21 10 39 12	358.96 11.46 23 55 49 11 27 48	359.05 11.24 23 56 13 11 14 30	357.19 10.43 23 48 46 10 25 57	.484	.0031 .0006			A2675 (R)
1H2353-177	358.37 -17.75 23 53 28 -17 45 02	67.12 -73.98 351.27 -15.60	357.45 -17.99 23 49 47 -17 59 06	359.16 -17.25 23 56 38 -17 15 04	359.28 -17.51 23 57 08 -17 30 41	357.57 -18.25 23 50 16 -18 14 47	.512	.0060 .0013			
1H2353+471	358.44 47.14 23 53 46 47 08 32	113.35 -14.42 22.00 42.83	357.15 46.67 23 48 35 46 39 59	359.62 47.75 23 58 29 47 45 09	359.76 47.60 23 59 02 47 36 12	357.29 46.52 23 49 09 46 31 13	.352	.0035 .0005			
1H2354+285	358.70 28.56 23 54 49 28 33 28	108.87 -32.56 11.08 26.52	357.66 28.16 23 50 37 28 09 53	359.70 29.05 23 58 47 29 03 15	359.76 28.94 23 59 02 28 56 34	357.72 28.05 23 50 52 28 03 15	.248	.0060 .0006	4U 2345+27 XRS23465+273	A 0000+28	II Peg (R)
1H2355-350	358.85 -35.03 23 55 23 -35 01 40	356.00 -76.25 343.44 -31.34	357.73 -35.44 23 50 55 -35 26 10	359.89 -34.51 23 59 33 -34 30 19	359.96 -34.61 23 59 49 -34 36 33	357.80 -35.54 23 51 10 -35 32 28	.236	.0072 .0007	4U 0009-33		2357-348

CATALOG ENTRY	POSITION		ERROR BOX					FLUX	IDENTIFICATIONS	
	RA DEC	GAL ECL	RA DEC	RA DEC	RA DEC	RA DEC	AREA	ERROR	X-RAY	NON X-RAY
1H2357-126	359.41 -12.63 23 57 38 -12 37 31	81.35 -70.96 354.37 -11.33	357.62 -13.07 23 50 29 -13 04 02	.95 -11.64 00 03 47 -11 38 13	1.19 -12.17 00 04 45 -12 10 17	357.86 -13.60 23 51 26 -13 36 17	2.079	.0030 .0012		A2704 (R)
1H2358+484	359.68 48.48 23 58 43 48 28 38	114.47 -13.29 23.95 43.50	358.35 48.00 23 53 25 47 59 53	.88 49.10 00 03 31 49 05 47	1.03 48.94 00 04 07 48 56 28	358.51 47.85 23 54 02 47 50 45	.368	.0033 .0005		

TABLE 5

CATALOGS USED IN SEARCHING ERROR BOXES

X-RAY CATALOGS

4th UHURU Catalog	Forman, W., Jones, C., Cominsky, L., Julien, P., Murray, S., Peters, G., Tananbaum H., Giacconi R. (1978), *Ap.J. Suppl. 38*, 357.
1 Ariel V X-Ray Sources	Seward, F., Page, C., Turner, M., Pounds, K. (1976), *M.N.R.A.S. 175*, 39P.
2 Ariel V X-Ray Sources	Cooke, B., et al. (1978), *M.N.R.A.S.* 182, 489.
HEAO A2 Hard X-Ray Sources	Marshall, F., Boldt E., Holt S., Mushotzky, R., Pravdo, S., Rothschild, R., Serlemitsos, P., (1979), *Ap.J. Suppl. 40*, 657.
CGS Catalog	Bradt, H., Doxsey, R., Jernigan, J. in *X-Ray Astronomy*, W. Baity and L. Peterson, Eds. (1979), Pergamon Press p. 3.
1M Catalog	Markert et al. (1979), *Ap.J. Suppl. 39*, 573.
2S	Bradt, H. (1978), AAS Meeting, Austin. Dower, R., Apparao, K., Bradt, H., Doxsey, R., Jernigan J., and Kulik, J. (1978), *Nature 273*, 364. Apparao, K., Bradt, H., Dower, R., Doxsey, R., Jernigan, J., Li, F. (1978), *Nature 271*, 225. Jernigan, J., Apparao, K., Bradt, H., Doxsey, R., Dower, R., McClintock, J. (1978), *Nature 272*, 701. Doxsey, R., Apparao, K., Bradt, H., Dower, R., Jernigan, J. (1977), *Nature 270*, 586. Doxsey, R., Apparao, K., Bradt, H., Dower, R., Jernigan, J. (1977), *Nature 269*, 112. Bradt, H., Apparao, K., Dower, R., Doxsey, R., Jernigan, J., Markert, T. (1977), *Nature 269*, 496. Jernigan, J., Apparao, K., Bradt, H., Doxsey, R., McClintock, J. (1977), *Nature 270*, 321.

RADIO, IR, AND γ-Ray CATALOGS

3C Radio Sources	Bennett, A.S., (1962), *Mem. R.A.S.* 68, 163.
Optically Identified Radio Sources	Veron, M. and Veron, P. (1974), *Astr. and Ap. Suppl. 18*, 309.
2 Micron IR Sources	Neugebauer, G., and Leighton, R. (1969), NASA SP-3047.
2 Micron IR Southern Extension	Price S. and Neugebauer G., Private Communication.
AFGL IR-Survey	Price, S. and Walker, R. (1976), AFGL-TR-76-0208.
COS-B γ-Ray Sources	*12th ESLAB Symposium* (1977).

GALACTIC / STELLAR CATALOGS

Supernova Search	Kowal, C.T., Zwicky, F., Sargent, W.C.W., and Searle, L. (1974), *P.A.S.P. 86*, 516. Kowal, C.T., Huchra, J. and Sargent, W.C.W. (1976), *P.A.S.P. 88*, 521.
Supernova Remnants	Ilovaisky, S. and Lequeux, J. (1972), *Astr. and Ap. 18*, 169 and 20, 347.
Supernova Remnants	Clark, D. and Caswell, J. (1976), *M.N.R.A.S. 174*, 267.
Globular Clusters	Arp, H. (1965), in *Gal. Structure*, vol. 5, Blaauw A. and Schmidt, M., Eds. University of Chicago Press, p. 401.
Early-Type Stars with Emission Lines	Wackerling, L. (1970), *Mem. R.A.S. 73*, 153.
Variable Stars	Kukarkin, B., et al. (1970), *Gen. Catalog of Variable Stars,3rd Ed.*, Moscow.
White Dwarfs	Luyten, W.J. (1970), *White Dwarfs*, Univ. of Minn. Press.
Stars at Distances <22 pc	Gliese, W. (1969), *Catalogue of Nearby Stars*, Verhoff, Astron. Rechen-Inst. Heidelburg No. 22.

Flare Stars	B.R. Pettersen (1976), *Catalog of Flare Star Data*, Report No. 46, Institute of Theoretical Astrophysics, Blinder - Oslo.
Index Catalog of Nebulae	Dreyer, J.L.E. (1895), *Index Catalog of Nebulae Found in the Years 1888 to 1894, With Notes & Corrections to the New General Catalogue, Mem. Roy. Astron. Soc.* 51 185. (Reprinted by the Royal Astronomical Society, London 1962). Dreyer, J.L.E. (1908), *Second Index Catalogue of Nebulae & Clusters of Stars, Containing Objects Found in the Years 1895 to 1910; With Notes & Corrections to the New General Catalogue and to the Index Catalogue for 1888 to 1894, Mem. Roy. Astron. Soc. 59*, 105. (Reprinted by the Royal Astronomical Society, London 1962).

EXTRAGALACTIC CATALOGS

Bright Galaxies	deVaucouleurs, G. (1964), *Reference Catalog of Bright Galaxies*, 1st Ed. Univ. Texas Press.
Compact and Bright Nucleus Galaxies	Fairall, A.P. (1970), *M.N.R.A.S. S. Africa 29*, 48.
Arp Atlas of Peculiar Gal.	Arp, H. (1966), *Ap.J. Suppl. 14*, 1.
Markarian Galaxies	Markarian B. (1974), *Astrofizika 10*, 307.
Rich Clusters of Galaxies	Abell, G. (1958), *Ap.J. Suppl. 3*, p. 211.
Southern Clusters of Galaxies	Klemola, A. (1969), *Ap.J. 74*, 804. Duus, A. and Newell, B. (1977), *Ap.J. Suppl. 35, 209.*
Revised NGC	*Sulentic, J.W. and Tifft, W.G. (1973), The Revised New General Catalog of Nonstellar Astronomical Objects.* Univ. Ariz. Press.
BL Lacertae Objects	Stein, W., O'Dell, S., Strittmatter, P. (1976), *Ann. Rev. Ast. Ap., Vol. 14.* p. 173.
BL Lacertae Objects	Weiler, K. and Johnston, K. (1980), *M.N.R.A.S. 190*, 269.
Quasars	Burbidge, G., Crowne, A., Smith, H. (1977), Ap.J. Suppl. 33, 113.

Table 6

Supplementary Information on Catalog Sources

1H0003+200 Mkn 335	Seyfert galaxy; type 1, z = 0.025 (WEED77).
1H0007+731 CTA1	Supernova remnant; distance = 1.6 kpc (ILOV72).
1H0010-515 STR0012-515 ?	Cluster of galaxies; optical (ROSE76).
1H0011-239 A14 ?	Cluster of galaxies; X-ray (JOHN83,ULME81a); z = 0.064 (SARA82), z = 0.113 (LEIR77).
1H0014+111 III Zw 2	Seyfert galaxy; X-ray (PICC82); type 1, z = 0.090 (WEED77); X-ray image (KRIS80); X-ray and radio (SCHN78); optical (PUET81).
1H0016-257 A15	Cluster of galaxies; z = 0.213 (SARA82).
1H0018+280 A21	Cluster of galaxies; X-ray (JOHN83); z = 0.090 (LEIR77).
1H0022+638 Ceph XR-1 Tycho SNR	Supernova remnant; distance = 5 kpc (ILOV72); X-ray spectrum (COLE73,DAVI76c); EINSTEIN SSS spectrum (BECK80); Si,S,Fe line emission (PRAV80a); X-ray image; circular 8 arc min diameter open shell of emission (REID82,FABB80); radio (DUIN75); optical (KAMP78); early X-ray (FRIE67,GORE70).
1H0024-296 A33	Cluster of galaxies; X-ray (JOHN83); z = 0.280 (LEIR77).
1H0025+588 A0026+59 4U0027+59	Variable X-ray source (CARP77).
1H0039+408 M31 NGC 224	Galaxy; distance = 670 kpc, magnitude = 3.5 (ALLE73); X-ray (BOWY74); soft X-ray (MARG74); X-ray image: 69 unresolved sources and 7 diffuse or confused regions (SPEY79).
1H0042-093 A85	Cluster of galaxies; z = 0.079 (LEIR77), z = 0.0518 (SARA82); EINSTEIN image (JONE79,FORE82); other X-ray (JOHN83,ULME81a,MCKE80,PICC82,MURR76).
1H0048+250	Quasar, z = 0.155 (SCHM83).
1H0052-015 A119 3C29	Cluster of galaxies; X-ray (JOHN83,MCKE80,PICC82); z = 0.045 (LEIR77), z = 0.0416 (NOON81); radio (PACH78)

1H0053+604 4U0054+60 2S0053+604 Gamma Cas	Star, Gamma Cas (DOWE78); distance = 300 pc (BRAD77); Type B0.5(II-V)E, variable (HUTC70,MOFF73); Periodicity searched, comparison with X-Persei (WHIT82a); optical (BRAD77).
1H0054-729 SMC X-3	Transient stellar source in SMC (LI77b); X-ray spectrum: photon power law index = 2.0 (CLAR78b); variability (CLAR79); optical (ALLE77,SAND77,CRAM78a).
1H0056-150 A131	Cluster of galaxies; X-ray (JOHN83); z = 0.123 (LEIR77).
1H0101-241 A140	Cluster of galaxies; z = 0.181 (LEIR77), z = 0.149 (SARA82).
1H0101-221 A133 4U0103-21	Cluster of galaxies; z = 0.06 (REIC81); kT = 1 keV (REIC81).
1H0102+017 A147 ?	Cluster of galaxies; X-ray (JOHN83); z = 0.0438 (NOON81), z = 0.040 (LEIR77).
1H0106+324 NGC 383 3CR 31 A156 ?	Cluster of galaxies; z = 0.0163 (HUMA56), z = 0.130 (JOHN83); optical (CASW67,FANT73); radio (PACH78).
1H0113-148 A159 ?	Cluster of galaxies; z = 0.143 (LEIR77); other HEAO-1 (PICC82).
1H0115+635 4U0115+63	Binary pulsar, recurrent transient; distance = 3 kpc (HUTC81a); period 3.6 s (COMI78b,ROSE79); 24 d binary period (RAPP78b); orbital elements (RAPP78a); pulse profile (JOHN78b); flares (CLAR78a,FORM76a,HOLT77); X-ray spectrum: photon power law index = 0.6 and varies with phase in pulsar cycle (ROSE79); Fe line (ROSE79); cyclotron absorption feature at 20 keV (WHEA78); position (COMI78b,JOHN78b,JOHN78d); other X-ray (KRIS83); optical spectroscopy (HUTC81a).
1H0121-353 NGC 526A	Seyfert galaxy; z = 0.018 (PICC82); X-ray spectrum: photon power law index = 1.5 (MUSH82).
1H0122-590 Fairall 9	Seyfert galaxy; z = 0.0461 (PICC82), z = 0.045 (HEWI80).
1H0123+075 HD8357	RS CVn binary system (GARC80); distance ≈ 70 pc (AMBR83); binary period 12.3 days (HALL82); variable in optical (HALL82); X-ray flaring (AMBR83).

1H0128-139 A209	Cluster of galaxies; z = 0.213 (SARA82).
1H0129+303 M33 NGC 598	Galaxy; distance = 730 kpc, magnitude = 5.7 (ALLE73); X-ray map: 11 point sources, brightest coincident with nucleus (LONG81); EINSTEIN image (MARK83).
1H0132+607 4U0142+61	X-ray and possible optical candidate (DOWE78,REID80); optical candidate unlikely (BRAD83).
1H0136-681 HO136-68 3A0143-681	Cataclysmic variable X-ray source (NUGE83,AGRA83); distance = 0.180 kpc (PATT84); AM Her type, orbital period = 0.0764 d (VISV82).
1H0151+359 A262	Cluster of galaxies; z = 0.0164 (JOHN83), z = 0.015 (LEIR77); EINSTEIN image (FORE82).
1H0155+740	Possibly confused.
1H0203+513 1E02063+5212	Seyfert galaxy, z = 0.05 (HERT83).
1H0215-007 Mkn 590 NGC 863	Seyfert galaxy (PICC82,MARS79b); type 1, z = 0.027 (WEED77); annular structure, poorly resolved spiral arms (ADAM77); other HEAO-1 (DOWE80).
1H0219+625 HB3	Supernova remnant; distance > 2 kpc (ILOV72,CLAR76b, GALA80); soft X-ray spectrum, kT = 0.18 keV (GALA80); other HEAO-1 (SHUL79a,NUGE83).
1H0227-094 NGC 985 VV 285	Seyfert galaxy; z = 0.043 (DEVA75); type 1 (DEVA75), type 2 (WEED77); disturbed galaxy, annular main body structure (ADAM77).
1H0240+621 2S0241+622 4U0241+61	Quasar; z = 0.0438 (MARG78b);variable over months (WORR80); X-ray spectrum: photon power law index = 1.93 (WORR80); X-ray variability (MARS81b); other HEAO-1 (SHAR79a); other X-ray (APPA78b,MARA78,TANA79); radio (TZAN78); optical (SOIF79); gamma-ray (HERM77,MARA78, PERO80).
1H0241+364 A376	Cluster of galaxies (JOHN83); z = 0.0489 (NOON81).
1H0244+001 NGC 1068 3C71.0	Seyfert galaxy; type 2, z = 0.0036 (WEED77); X-ray (ELVI78); IR,optical,UV (LACY82,WEED77,ADAM77); IR (TELE80); radio (WEED77,PACH78).
1H0246+275 A377 ? A387 ?	Cluster of galaxies (JOHN83); z(A377) = 0.2070 (JOHN83).

1H0251+414
AWM 7

Compact group of galaxies; X-ray identification (COOK78, SCHW80a,b); z = 0.017 (STAU80b); X-ray spectrum kT = 4.0 keV plus Fe line (SCHW80a,MUSH78d); optical identification (SCHW80a); group includes NGC1129,1130, 1131, I265; other HEAO-1 (NUGE83)

1H0253+058
A400 ?
3C75.0 ?

Cluster of galaxies (JOHN83); z(A400) = 0.0232 (NOON81), z(3C75) = 0.0217 (WEST69); 3C75 a db galaxy in A400, radio and optical (PACH78); X-ray image (FORM82).

1H0253+130
A401/A399

Cluster of galaxies (JOHN83,PICC82); z(A401) = 0.0748, z(A399) = 0.0715 (NOON81); X-ray spectrum: kT(A401) = 5.3-7.6 keV (MITC77,MITC79,MUSH78d), Fe line (MUSH78d); X-ray structure: diffuse emission (ULME79a), structure (A401) by lunar occultation (ULME79a,b), by EINSTEIN (ULME81b); radio (SLIN74,DULD79); optical (CART80).

1H0258-126
A415
PKS0304-12

Cluster of galaxies; z = 0.093 (LEIR77).

1H0311-227
EF Eri
2A0311-227

Degenerate dwarf in a binary system; optical identification, 15th mag blue star (GRIF78d,BOLE79, HILT79); optical period of 81 min and flaring in V and B (WILL79,BOND79,HUTC82,YOUN82); optical quasi-periods of 13.7 and 20.2 min (WILL82); optical spectrum (WILL79, GRIF79c,SCHN80,CRAM81); complex line structure (YOUN82, CRAM81); optical polarization (TAPI79); magnetic cataclysmic variable (CHAR79e); X-ray flares and light curve (PATT81b,WHIT81c); X-ray spectrum: kT = 18 keV with Fe line (WHIT81c); 1/4 keV eclipse (PATT81b); X-ray image (VIAI81); IR light curve (ALLE81).

1H0315-445
2A0316-443
PKSO316-443

Cluster of galaxies; z = 0.09 (MACC78); X-ray (PICC82).

1H0316+413
Perseus Cluster
A426

Cluster of galaxies including NGC1275; z = 0.0177 (BURB79); z = 0.0183 (HINT79); X-ray (JOHN83); optical identification (BAHC74); X-ray image: compact source coincident with NGC1275, and a 15 arc min extended emission region (MUSH81,BRAN81); X-ray halo extending to 2.5 degrees (ULME80c); X-ray spectrum: two-components, kT = 1.0 and kT = 6.7 keV, plus line emission from Si,S,Fe (MUSH81), hard X-ray spectrum (PRIM81); radio (ERIC780); infrared (RIEK75,RUDY82); early X-ray (FRIT71a).

1H0327+000 HR 1099 V711 Tau	Transient, RS CVn system; distance = 33 pc (SPAN77); period = 2.8 d (BOPP76);X-ray transient (WHIT78a, WALT81a); 1/4 keV emission (WALT78); SSS: emission components with different temperatures required to account for lines and continuum (SWAN81); coordinated ultraviolet, optical and radio observations (WEIL78); radio flare (SPAN77,WEIL78).
1H0332+317 NRAO 140	Quasar (MARS81a); z = 1.258 (HEWI80); X-ray image (MARS79a); optical magnitude 17.5, radio (PACH78).
1H0334+098 2A0335+096 4U0334+11	Compact groups of galaxies; z = 0.04 (SCHW80b); X-ray (PICC82).
1H0334+291	Possibly confused with UX Ari.
1H0335-357 H0335-35 NGC 1399 ?	X-ray (NUGE83). The identification proposed by Nugent et .al. is NGC 1365 which lies outside the 1H error box.
1H0338-543	Confused with 1H0341-537.
1H0340+392 4C39.12 ?	Active galactic nucleus; z = 0.0209 (BURB79).
1H0341-537 CA0342-538 2A0343-543	Cluster of galaxies; z = 0.052 (MELN75), z = 0.0576 (HINT79); X-ray spectrum: kT = 17.2 keV (HINT79); optical (MELN75); X-ray (PICC82).
1H0343+237 Pleiades	Star cluster; X-ray (NUGE83).
1H0352+308 X Per	Binary Pulsar; distance = 350 pc (BRUC72); Be star (BRUC72); period, 13.9 min, P/(dP/dt) = -5880 yrs (WHIT77b, MASO77); period, 581 d (HUTC74a,WHIT77b, HUTC75); period at various epochs (WHIT82a); X-ray spectrum: kT = 12 keV hardening to 20 keV near X-ray minimum for E > 20 keV, no evidence for Fe line emission (BECK79a); energy power law index approximately -0.3 for E > 2 keV (MUSH77,WORR81a); polarization about 1% in V band (BARB78); ultraviolet (HAMM80,BERN81).
1H0409-078 40 Eri	K1 dwarf, DA white dwarf, dwarf M4 flare star in triple system; distance = 5 pc (CASH79); IPC fluxes for 40 Eri A and 40 Eri BC (VAIA81); other HEAO-1 (NUGE83,SHUL79b).

1H0409+102 A478	Cluster of galaxies; z = 0.09 (BAHC77c); includes cD galaxy (SCHN77b); 2.3 arcmin in X-ray (SCHW79c); EINSTEIN image (JONE79); X-ray spectrum: kT = 6 keV (MITC79); radio (SCHN77b); other HEAO-1 (NULS79,PICC82;JOHN83).
1H0413-116 A483	Cluster of galaxies; X-ray (JOHN83); z = 0.292 (LEIR77).
1H0413+009 A480	Cluster of galaxies; z = 0.18 (ULME80a); z = 0.0473 (SARA82).
1H0414+380 3CR111.0	N-galaxy; z = 0.0350 (BURB79); z = 0.0485 (SMIT76); X-ray (MARS78); radio (ERIC78).
1H0426+051 3C120	Seyfert galaxy, N-galaxy (MARS78); z = 0.0334 (BURB79); variable on timescale of days (AMBR79); X-ray spectrum: (SCHN77a); other X-ray (MARS81b,ELVI78); radio (KELL71); infrared (RIEK72); optical (SHIE72,OSTE77); other HEAO-1 (MARS78,DOWE80).
1H0429-616 Sers 40/6 STR0431-616	Cluster of galaxies (PICC82); z = 0.079 (LUGG78); z = 0.0601 (VIDA75).
1H0430-133 A496	Cluster of galaxies; z = 0.042 (LEIR77); z = 0.057 (LUGG78); probably includes E-galaxy, with z = 0.036 (BURB79); X-ray (SCHW79c,MCKE80); radio (FELD77); other HEAO-1 (NULS79,PICC82).
1H0441-207 PKS0446-206 ? A514 ?	PKS 0446-206, N-galaxy; z = 0.0732 (BURB79); A514, cluster of galaxies; z = 0.0353 (LEIR77).
1H0445-060 NGC 1681 ?	Galaxy; explosion suspected (SULE73).
1H0446+450 3C129 cluster	Cluster of galaxies; z(3C129) = 0.0208, z(3C129.1) = 0.0222 (BURB79); X-ray spectrum: photon power law index = 2.5 or kT = 5 keV with Fe line (MUSH78d,MITC79); other X-ray (LUGG78); radio (ERIC78).
1H0448-041 MCG-01-13-025 H0447-037	X-ray (SHUL79,MARS79b).
1H0451-560 H0449-55	Transient; duration 1 min to 2 d (KALU78); X-ray spectrum is Crab-like (KALU78); optical identification with M dwarf system (GRIF79f).
1H0453-100 A521	Cluster of galaxies; X-ray (ULME80a,JOHN83); z = 0.20 (LEIR77).

1H0455+276 3C133 ?	X-ray (SHAR79b).
1H0455+518 H0452+51	X-ray (NUGE83).
1H0458-367 4U0457-35	Possibly confused.
1H0459+248	X-ray (SHAR79b).
1H0501+592 12 Cam HR 1623	RS CVn System; distance = 0.18 kpc, orbital period = 80.17 days (HALL84).
1H0507-459 Pic A PKS0507-45	N-galaxy, z = 0.035 (BURB79).
1H0512-401 NGC 1851 MXB0513-40	Globular cluster; distance = 9.5 kpc (PETE75); high central density and small core radius (BAHC77a); X-ray burster (LEWI79); burst duration 25 s (FORM76b); X-ray spectrum: photon power law index = 1.4 (CLAR75); X-ray source 10 arc sec from center of globular cluster (SHAW80, GRIN81a).
1H0515-363 PKS0521-365	BL Lac object; z = 0.055 (HEWI80), z = 0.0617 (BURB79); X-ray (KINZ78); optical (DANZ79).
1H0516+063 A539 ?	Cluster of galaxies; z = 0.0267 (JOHN83).
1H0521-720 LMC X-2	X-ray; distance = 55 kpc (BOK66); X-ray variable (RAPL74,LEON71,MARK75,JOHN78c); early X-ray (MARK69).
1H0527-328 2A0526-328 TV Col	Cataclysmic variable, UX-UMa type (WARN80,WATT80); distance = 0.160 kpc (PATT84); orbital period 0.2286 d, rotation period 0.2163 d (HUTC81b); X-ray variability on the order of 1 min (WARN80); X-ray spectrum: kT = 0.2 keV (COE81); optical spectra (MOTC81).
1H0530-054 M42	Galactic Nebula; distance = 460 pc (ALLE73); X-ray (DENB78).
1H0531-070	X-ray active region in Orion; distance = 450 pc; X-ray image: 25 sources (KU79,PRAV81).
1H0531+219 Crab Nebula	Pulsar in supernova remnant; distance = 2.022 kpc (TRIM68); nebula X-ray size 0.5 to 2 arc min (BOWY64a,

Crab Pulsar
NP0532

HAWK74,DAVI75b,KEST75,WOLF75,STAU75,PALM75,RICK75a), size dependence on energy (KU76); pulsar period 33 ms (STAE68,COCK69,COME69,FRIT69a,NEUG69,LYND69,KURF71, KINZ71), slow-down rate = 36.5 ns per yr(RICH69); pulsar variability (RANK74,RYCK77); polarization 11% optical (FORM71), 19% X-ray (WEIS78a,LONG79), 50% radio (VAND73); X-ray spectrum, nebula: evidence for thermal kT = 0.5 keV for E < 3 keV (TOOR76), energy power law index = 1 for E < 80 keV (BOLD69,FRIT71b,STRI79), energy power law index = 1.4 for E > 80keV (STRI79); X-ray spectrum, pulsar: energy power law index = 0.2 for E < 10 keV (FRIT71b,HENR72), energy power law index = 1 for E > 10 keV (DOLA77,STRI79), 73 kev line feature (MANC82, STRI82), hard X-ray spectrum (KNIG82); other radio (HOWA65); infrared (MORO64); IR observations of pulsar (PENN81); optical (ODEL62); UV spectrum (IUE) (DAVI82a); gamma-ray (FAZI72,GRIN72,THOM77,BENN77); early X-ray (BOWY64b,FRIE67).

1H0534-667
LMC X-4

Binary pulsar; distance = 55 kpc (BOK66); eclipsing binary (WHIT77a,WHIT78d); binary period = 1.41 d (CHEV77,HUTO78,LI78a); pulsar period = 13.5 s (KELL82), precession period = 30.5 d (LANG81); X-ray variability and flaring (WHIT78d,LI78a,EPST77b,SKIN80); position (EPST77b,COOK78,DELV76); optical counterpart (PAKU76, PESC76,BLAN77,HILT77,SAND76); ultraviolet (BONN81); early X-ray (MARK69).

1H0536+263
HDE 245770
4U0538+26
V725 Tau

Binary pulsar, recurrent transient, irregular variable variable Be star (LILL75,STIE76); distance = 1.8 kpc (WADE77); 16 d rise time (ROSE75), 30 d decay time (KALU75,RICK75b); periods: 104 s (ROSE75,CARP77), > 17 d (RAPP76), and 111 d (PRIE83); X-ray spectrum: kT = 18 keV keV (RICK76a), at maximum, kT = 8 keV (COE75); other X-ray (EYLE75b,CHAR77c); infrared (PERS79); transient outburst in 1980 (NAGA82), transient outburst in 1977 (VIOL82).

1H0538-641
LMC X-3

Black hole candidate (COWL83,WHIT83a); OB star (WARR75); distance = 55 kpc (BOK66); X-ray variable (RAPL74); other X-ray (JOHN79); other HEAO-1 (JOHN78c); early X-ray (MARK69,LEON71).

1H0540-697
LMC X-1

Black hole candidate (WHIT83a); optical and radio supernova remnant (MATH73) or star R148 (JOHN78c); distance = 55 kpc (BOK66); companion mass exceeds 3 solar masses (HUTC83); X-ray variable (GRIF77); complex structure X-ray spectrum, kT = 1 keV (EPST77a); other X-ray (RAPP75,JOHN79); early X-ray (MARK69, LEON71).

1H0541-258 A548	Cluster of galaxies; z = 0.0390 (JOHN83).
1H0546-439 PKS0537-441 ?	Quasar; X-ray image (ZAMO81); optically variable, magnitude 13.8-15.5 (PACH78).
1H0548-322 PKS0548-322	BL Lac object (DISN74); z = 0.069 (FOSB76), z = 0.042 (LUGG78); X-ray spectrum, two component: photon power law index variable, ~2.8 (WORR81b); nonthermal component and elliptical galaxy (WEIS79); other X-ray (SCHW79a); other HEAO-1 (PICC82,MUSH78b).
1H0551-074 NGC 2110	Seyfert galaxy (MARS81b); z = 0.071 (BRAD78b); z = 0.0076 (SHUD80); X-ray (BRAD78b,GRIF79b,MARS81b); X-ray spectrum: photon power law index = 1.8 (MUSH82); X-ray variability (MUSH82).
1H0551+463 MCG 8-11-11	Seyfert galaxy; z = 0.0205 (MARS81b); includes compact radio source (COND77); X-ray variable (WARD77); X-ray spectrum: kT =28 keV or energy power law index = 0.66 (MUSH80a,MUSH80b); other X-ray (ELVI78,FRON79,GRIF79a, MARS81a); optical (MILL79); IR, optical, UV (LACY82).
1H0555-384 4U0557-38	X-ray (PICC82).
1H0556+126	X-ray (SHAR79b).
1H0610+091 4U0614+09 V1055 Ori	Sco X-1 like, long term variable (MURD74), possible X-ray burster, burst duration ~50 s (SWAN78); distance = 4 - 8 kpc (DAVI74); optical identification 18th mag B star, UV excess (MURD74, DAVI74), variable star V1055 Ori (BRAD83); X-ray spectrum: kT = 2.4 - 3.2 keV or energy power law index = 1.6 - 1.7, correlated intensity and spectral slope, variability on 1 hour timescale (PARS78), kT = 2.5 - 6 keV (MASO76), burst spectrum, kT = 1.1-2.5 keV (SWAN78); X-ray binary period 5.2 days (MARS81d); other X-ray (GREE79a,DOWE78); radio (DULD79).
1H0612+226 IC443	Supernova remnant; distance = 1-2 kpc (ILOV72,WOLT72); X-ray spectrum: kT ~0.9 keV or photon power law index ~4.5 (PARK77); other X-ray (SHUL76, MALI76,LEVI79); radio (COLL71,HILL72b); early X-ray (GIAC72).
1H0613+479 3C153 ?	Active galaxy in cluster; z = 0.2771 (BURB79,PACH78); radio (PACH78,SMIT76).

1H0623-539 STR0627-544 ?	Cluster of galaxies; z = 0.05 (VIDA75); X-ray spectrum: kT = 4.4 - 6.3 keV (MITC79,MUSH78d), kT = 7.8 keV plus Fe line (BERT79); other X-ray (MACC78, NULS79); other HEAO-1 (PICC82); X-ray image, double structure (FORM81, FORM82).
1H0633-752 PKS0637+535	Quasar; z = 0.651 (HEWI80).
1H0637+535 ANON 0636+53	Galaxy; suggested source identification: compact, paired with galaxy ANON 0637+53, and X-ray luminosity comparable to type 1 Seyfert (MARS79b).
1H0659+453 Mkn 376	Seyfert galaxy; type 1, z = 0.056 (WEED77); possible member of a cluster (ADAM77); IR,optical,UV (LACY82, WEED77); radio (WEED77); no radio emission detected (DEBR76); X-ray variability (MARS81b); other X-ray (ELVI78).
1H0712+558 A576	Cluster of galaxies; z = 0.133 (LEIR77); X-ray (NULS79, HINT79); X-ray structure (WHIT80b).
1H0717+714 1E0716+71	BL Lac object; flat UV and optical spectrum, variable and 14% polarized in optical (BIER81); radio variable (KUHR81); X-ray image (BIER82); optical (WING73).
1H0726-259 4U0728-25	Binary X-ray source, Be star, distance = 5.0 kpc, variability indicated (STEI84).
1H0729+316 A586 YY Gem ?	Cluster of galaxies; z = 0.171 (JOHN83); X-ray (ULME81a); the flare star YY Gem is also near this position and may be confused with this source (TSIK82, VAIA81).
1H0741+289 Sigma Gem	RS CVn binary system; distance = 0.059 kpc (HALL84).
1H0741+651 Mkn 78	Seyfert galaxy; type 2, z = 0.038 (WEED77,ADAM77).
1H0743+037 YZ CMI	Flare star; distance = 6 pc (PETT76); X-ray flaring (HEIS75,KAHN79,KAHL82); X-ray image (KAHL82); X-ray, optical,and radio observations (KARP77).
1H0743+184	Possibly confused.
1H0744+499 Mkn 79	Seyfert galaxy; z = 0.0219 (MARS81b); optical (ADAM75, OKE78); ultraviolet (OKE78); X-ray (MARS81b,STEI81b, ELVI78).

1H0745-191 4U0739-19 PKS0745-19	N-Galaxy, z = 0.1028 (BURB79).
1H0759-490 4U0750-49 HD64740?	X-ray (BACH75,SEWA76b); optical candidates discussed (GROO78).
1H0802-469 1E08083-4275	Variable object, seen in EINSTEIN IPC, V > 15 (HERT83).
1H0811+625	Cataclysmic variable, U Gem type (PATT84); orbital period = 0.0763 d (WADE82); EINSTEIN image (CORD84).
1H0814-073 A644	Cluster of galaxies (JOHN83); z = 0.084 (LEIR77).
1H0815-571 4U0814-56	X-ray (SEWA76b).
1H0816+017 PKS0812+02 A653	Quasar; z = 0.402 (BURB77).
1H0820-426 Pup A SNR	Supernova remnant (BURG73b,GORE74); estimated distance = 1.2 kpc (MILN70); X-ray line emission (ZARN78); spatial structure (CHAR78,LEVI79,HEAR80); EINSTEIN HRI image (PETR82); Spectrum: O VII, O VIII lines (WINK81a,WINK81b).
1H0823+561 A652	Cluster of galaxies; z = 0.1938 (SARA82).
1H0833+153 A689	Cluster of galaxies, z = 0.1430 (JOHN83).
1H0833+654 A665 PI(1) UMa	Cluster of galaxies (A665), z = 0.1816 (JOHN83); or PI(1) UMa, a main sequence, type G, rapidly rotating dwarf (VIAI81).
1H0846+519 0846+51W1 2A0859+509 ?	BL Lac object, highly variable; z = 1.86 (ARP80).
1H0859-403 Vela X-1 HD77581	Binary pulsar; distance = 1.2 kpc (HILT72); orbital period 8.97 days (FORM73,ULME72); pulse period 283 s (MCCL76); other measurements of pulsar spin period (RAPP77,OGEL77,BECK78); orbital elements and mass estimate (RAPP76); X-ray spectrum: power law with adsorption and Fe line (BECK78), high-energy spectrum (DOLA81,STAU80a), EINSTEIN SSS spectrum (KALL82).

1H0900-375 PKS 0902-38	Supernova remnant, distance = 4.3 kpc (ILOV72).
1H0906-095 A754	Cluster of galaxies; z = 0.0539 (PICC82,JOHN83); z = 0.052 (LEIR77).
1H0917-121 A780	Cluster of galaxies; z = 0.0522 (JOHN83).
1H0918-548 4U0919-54	X-ray, position (REID80,DOWE78); other X-ray (SEWA76b).
1H0919-312 4U0923-31	X-ray (SEWA76b).
1H0920-629 H0921-631	Binary X-ray source; position (LI78b); orbital period 9 days (COWL82b); distance = 8 kpc (PATT84).
1H0922-810	Possibly confused.
1H0929+122 A803 ? AKN 202 ?	Cluster of galaxies; note the Seyfert galaxy AKN202, z = 0.028 (WEED78), lies well outside this HEAO A-1 error box (see DOWE80).
1H0946-309 MCG-5-23-16	Seyfert galaxy; X-ray spectrum: photon power law index = 1.84 (MUSH82).
1H0946-144 NGC 2992	Seyfert galaxy; z = 0.0062 (PICC82), z = 0.034 (LUGG78), z = 0.00752(SHUD80); X-ray spectrum: photon power law index = 1.84 (MUSH82).
1H0950+696 M82	Seyfert galaxy; z = 0.0013 (PICC82), z = 0.00072 (SHUD80).
1H1008+343 3C236	Galaxy in a cluster; z = 0.0988 (PACH78).
1H1012-574 RCW 48W A1014-57	Supernova remnant; distance = 8.6 - 12.3 kpc (DOWN71, ILOV72); X-ray (SEWA76b); possibly not a SNR (DOWN71, CLAR76b).
1H1012-098 A970 ? PKS1020-103?	Cluster of galaxies (JOHN83,ULME81a); z = 0.115 (LEIR77); possibly confused.
1H1013+498 A950	Cluster of galaxies, z = 0.202 (LEIR77).

1H1017+202
NGC 3227
AD Leo ?

Seyfert galaxy, z = 0.0033 (WEED77); uncertain class: type 1 (MARS79b,ELVI78), type 2 (WEED77,ADAM77,PICC82); X-ray identification (ELVI78); X-ray variability (MARS81b); IR,optical,UV (LACY82); IR, radio summary (WEED77); alternate identification, the dMe star AD Leo (KAHN79).

1H1023+513
A1004

Cluster of galaxies; z = 0.117 (LEIR77); Abell cluster is in HEAO-1 error box, an alternate identification very near error box is Mkn 142 (MARS79b,ELVI78), Seyfert galaxy, type 1, z = 0.045 (WEED77,ADAM77).

1H1033-273
A1060
STR1034-272

Cluster of galaxies (JOHN83,PICC82), z = 0.0114 (NOON81); X-ray spectrum: kT = 3.1-3.5 keV (MUSH78d, MITC77,MITC79), two temperature components plus 6.7 keV Fe line, kT = 1.8-2.2 keV and kT = 14.4-11.9 keV (MITC80).

1H1045-597
Eta Carina
NGC 3372

Star formation region, historical Nova; X-ray (BECK76, SEWA76b), low energy survey (HILL72a); X-ray image and spectra; star Eta Car, several O stars, and diffuse nebula (SEWA79); UV (WALB82,DAVI82b); IR (THAC78).

1H1051+607
2A1052+606
BD +61 1211
DM UMa

RS CVn binary system; distance = 0.16 kpc (SCHW79a); other HEAO-1 X-ray (plus optical) (WALT80,CHAR79b, SCHW79a); EINSTEIN X-ray (WALT81a,WALT81b); optical (CRAM79,KIMB81).

1H1059+566
A1132

Cluster of galaxies; z = 0.1363 (NOON81).

1H1104+382
Mkn 421
A1103+38

BL Lac object; z = 0.031 (ULRI75); optical identification (MILL75,MILL77a); optical spectrum (MAZA78,ULRI78); optical polarization (RIEK77,BAIL81); optical and radio (MARG78a,ULRI75); X-ray spectrum (MUFS80,MUSH78b,MUSH79); X-ray transient, Mkn 421 proposed as identification (COOK76a); other X-ray (BOKS78,HEAR79,RICK76c,SCHW79a).

1H1118-602
Cen X-3

Binary pulsar; distance = 8 kpc (KRZE74); optical identification (MARG72a,KRZE74,GIAC74); X-ray periods: 4.85 s (GIAC71,TUOH76,ULME74b), 2.09 d (SCHR72); period changes (FABB77,HENR77,VAND80); orbit, from X-ray (SCHR72,FABB77); mass limit (AVNI74,WEED72,WILS72); hi-low states, dips (POUN75, SCHR76,CARL79); long term behavior (BENN76,SCHR76); X-ray spectra (COE76,BLEE73, BAIT74,HAYA73); other X-ray (BRAD79,CHES78,HOLT79b, LONG75,LONG77,CARP77,MAUD75,PARK74); infrared (GLAS79).

1H1120+423 A1250/A1237	Cluster of galaxies; z(A1250) = 0.165 (LEIR77), z(A1237) = 0.149 (LEIR77); X-ray (A1237) (JOHN83).
1H1121-591 MSH 11-54 H1122-59	Supernova remnant; distance = 10 kpc (AGRA80); X-ray image (TUOH82); other X-ray (SHAR78b,AGRA80).
1H1129+495 A1314 Mkn 178	Cluster of galaxies; z = 0.0341 (SARA82).
1H1135-372 NGC 3783	Seyfert galaxy; z = 0.0085 (BURB79); X-ray (COOK76b, ELVI78,MUSH80a,PICC82).
1H1137-649 4U1137-65 HD101379	RS CVn binary system; distance = 75 pc (GARC80); radio (GARC80); optical (WEIL79); X-ray (SEWA76b,BRAD83).
1H1137+699 Mkn 180	Active galactic nucleus; z = 0.046 (MUFS81); EINSTEIN observation (MUFS81); coordinated observations, radio, optical, UV, X-ray (MUFS83).
1H1142+199 A1367	Cluster of galaxies; z = 0.019 (LEIR77), z = 0.0213 (JOHN83); Einstein image (JONE79,FORE82,BECH83); X-ray spectrum: two components, kT = 1.3 keV and 2.8 keV plus Fe line (MUSH78d), kT = 1.3 keV (HINT79); steep spectrum radio source (BALD73); other X-ray (ULME81a).
1H1144-617 HD102567 HEN 715 1E11451-6141 2S1145-619	Binary pulsar(s); two pulsars spatially unresolved in HEAO A-1; distance(1145-614) = 1.50 kpc (BRAD77, WHIT78b); optical identification (SOFI74); optical spectral types B1 Vne (1145-619) (FEAS61) and B1I (1145-614) (HUTC81c); X-ray flux (JERN78a,BRAD79, FORM76c); X-ray periods, 292 s and 297 s (WHIT78b); X-ray spectrum: photon power law index = 1.5 and Fe line (WHIT80c); X-ray flares (WATS81b); two X-ray pulsars resolved (WHIT80c,LAMB80); other X-ray (BRAD79,DOWE78, SEWA76b).
1H1150+738 A1412	Cluster of galaxies; z = 0.0839 (SARA82).
1H1152+237 A1413	Cluster of galaxies; z = 0.121 (LEIR77), z = 0.1427 (JOHN83,SARA82); EINSTEIN image (JONE79); X-ray spectrum: kT = 8.1 keV (PERR81); other HEAO-1 (ULME81a).

1H1154+294 4C 29.45	Quasar; z = 0.729 (BURB77).
1H1205+440 NGC4051	Seyfert galaxy; type 1, z = 0.0023 (WEED77); X-ray image and rapid variability, (MARSH83).
1H1208-518 PKS 1208 G296.5+10.0	Supernova remnant, distance = 1.9 kpc(ILOV82); spectral index alpha = 0.5 in radio (WHIT68); radio polarization map (MILN75).
1H1210+393 NGC 4151	Seyfert galaxy; z = 0.0033 (WEED77); X-ray spectrum: photon power law index = 1.43 (MUSH80a,FRON79,BAIT75); EINSTEIN SSS and HEAO A-2 (HOLT80); 0.02 to 19 Mev photon power law spectral index = 1.3 (PERO81); simultaneous spectrum from radio to X-ray (BEAL81); X-ray variability (IVES76,ELVI78,ULME77,MUSH78c,MEEG79); variable absorbing column (BARR77); other X-ray (PICC82); early X-ray (GURS71a); Radio jets (JOHN82).
1H1211+762 Mkn 205	Quasar; z = 0.070 (HEWI80); Einstein X-ray images (TANA79,ZAMO81)
1H1219+301 2A1219+301	BL Lac object (WILS79a;SCHW79b); z estimated 0.13 (WEIS81); hard X-ray spectrum (WORR81b); X-ray variability (WILS79a); other X-ray (PICC82); optical and infrared (LEDD81).
1H1221-623 GX301-2 WRAY 977 BP Cru	Binary pulsar; distance = 2 kpc (BRAD77); pulse period 699 s; star WRAY 977 (GIAC74,MAUD76,BRAD77); distance = 2 kpc (VIDA73): hard X-ray spectrum and variability (LEWI71a,MCCL71,RICK76b); orbit parameters (KELL80); hard X-ray flaring (MAUR82); radio (SEAQ77).
1H1226+022 3C273	Quasar; z = 0.158 (BURB79); X-ray spectrum (MARG72b, WORR80); EINSTEIN observation (BLUM82); supraluminal expansion in radio (COHE77,PEAR81); early X-ray (BOWY70,BYRA71); other X-ray (PICC82,TANA79).
1H1226+128 Virgo Cluster M87	Cluster of galaxies; z = 0.0037 (JOHN83); 1.1 keV Fe line (LEA82), spectrum (MUSH78d,JONE78); shows two spectral components (REIC81,ULME80c); FPCS spectrum, O VIII Lyman alpha (CANI82); EINSTEIN SSS spectrum and temperature gradients (LEA82); other X-ray (PICC82, ULME81a); extended emission (LAWR78,ULME80c); X-ray image: (FORM82), high resolution observations (SCHR82); mass determined from extent of X-ray emission (FABR80); early X-ray (BYRA66,FRIE67,BYRA71b).
1H1226+505	Possibly confused.

1H1229+199 TON 1542	Quasar; z = 0.064 (BURB77).
1H1238-599 2S1239-599	Binary pulsar; pulse period 191 s (HUCK77); X-ray position (DOWE78); hard spectrum (HUCK77); other X-ray (CARP77).
1H1238-050 NGC 4593	Seyfert galaxy (PICC82); z = 0.48 (BURB79).
1H1244-588 4U1246-58	X-ray (SEWA76b,CARP77).
1H1244-409 Centaurus Cluster	Cluster of galaxies, X-ray (GURS71c,PICC82); z = 0.0118 (JONE78); X-ray spectrum: kT = 3.6 keV (JONE78), other spectra (MUSH78d,MITC80), two spectral components (REIC81), Fe line (MITC77).
1H1247+755 A1607	Cluster of galaxies; z = 0.131 (LEIR77).
1H1249-637 A1250-66	X-ray (SEWA76b).
1H1251-291 EX Hya	Cataclysmic variable; U Gem type, orbital period = 0.454 days (GILL82); position and identification (JOHN78a); soft X-ray survey (CORD79); EINSTEIN observation (CORD81).
1H1254-690 4U1254-69	Binary X-ray source; X-ray spectrum: photon power law index = 1.6 (COE76), kT = 3 - 7 keV (JONE77); other X-ray (GRIF78a, DOWE78).
1H1255-172 A1644	Cluster of galaxies, X-ray (PICC82,MCKE80); z = 0.061 (LEIR77), z = 0.0453 (SARA82).
1H1257-610 GX304-1	Binary pulsar; optical counterpart (GIAC74,BRAD77); pulse period = 272 s (MCCL77a); optical counterpart Be star (PARK80); distance = 1 - 3 kpc, hard X-ray spectrum and variability (RICK73); radio (SEAQ77).
1H1257+281 Coma Cluster	Cluster of galaxies; z = 0.023 (NOON73); X-ray spectrum (MALI78), Fe line (JOHN81a); X-ray structure (GORE79); upper limit on extended halo (ULME80c); early X-ray (MEEK71,GURS71c); other X-ray (JOHN83,MCKE80).
1H1303-047 A1651?	Cluster of galaxies; X-ray (PICC82,MCKE80); z = 0.094 (LEIR77); z = 0.0825 (SARA82); A1651 is outside 1H error box
1H1305+466 A1682/A1697 ?	Cluster of galaxies; z(A1682) = 0.069, z(A1697) = 0.197 (LEIR77); other HEAO-1 (A1697) (JOHN83).

1H1322-309 SC1329-314	Cluster of galaxies; z = 0.073 (PICC82); X-ray spectrum: two component, kT = 1 - 6 keV and kT ~15 keV (REIC81); Fe line emission (MUSH78d).
1H1323-428 Cen A NGC 5128	Active galactic nucleus, elliptical galaxy; z = 0.0016 (BURB79); X-ray variable on timescale of days (DAVI75, MUSH78a,WINK75,BEAL78); X-ray spectrum: photon power law index = 1.4 - 2.4 and variable (DAVI75c,GRIN75b,LAMP72, MUSH78a,STAR76,TUCK73), two components, photon power law index = 1.6 for 2 to 140 keV and = 2.0 for 0.14 to 2.3 MeV (BAIT81), Fe line (MUSH78a,STAR76); X-ray structure: i. point source, ii. emission coincident with inner radio lobes and with dust lane , iii. 4 arc min extended region, iv. X-ray jet (SCHR79,DELV78,FEIG81,MARS81c); optical structure (BLAN75,DUFO78,GRAH79,GRAH80,GRAH81, OSME78); radio (BEAL78,CHRI77,COOP65,FOGA75); gamma-ray (GRIN75a); early X-ray (BYRA71a,BOWY70).
1H1326-269 A1736	Cluster of galaxies; X-ray (JOHN83), z = 0.0431 (NOON81).
1H1326+174 VW Com 1331+170	Flare Star (VW Com), dist = 0.015 kpc (BUSK74,PETT84); or alternatively, quasar (1331+170), z = 2.081 (BURB77).
1H1328+113 MKW 11	Compact group of galaxies; z = 0.023 (SCHW80b).
1H1332-233 A1757	Cluster of galaxies; z = 0.139 (JOHN83).
1H1332+372 HR5110	RS CVn system, distance = .053 kpc (HALL84); possible alternate identification: Mkn 456.
1H1334-340 MCG 6-30-15	Seyfert galaxy; z = 0.006 (PICC82), z = 0.0144 (LUGG78); optical (PINE80).
1H1338-604 1E13405-6107 4U1344-60	Source identified with 8th magnitude object, variable (HERT83); other X-ray (SEWA76b,VILL76).
1H1338-144 A1768 ?	Cluster of galaxies; z = 0.152 (JOHN83).
1H1344-326 SC1344-32	Cluster of galaxies; z = 0.0144 (LUGG78); X-ray MARK76a,CANI75a); other HEAO-1 (PICC82).
1H1345-300 IC4329A	Seyfert galaxy (ELVI78); z = 0.0138 (WEED77); other HEAO-1 (PICC82).

1H1348+267 A1795	Cluster of galaxies; z = 0.0621 (JOHN83), z = 0.084 (LEIR77); EINSTEIN image (JONE79); other X-ray (MURR76); other HEAO-1 (PICC82,MCKE80).
1H1350+696 Mkn 279	Seyfert galaxy (ELVI78); z = 0.031 (ADAM77).
1H1359-645 MX1353	X-ray (MARK77,SEWA76b).
1H1359-421 PKS1355-416	Quasar; z = 0.31 (BURB77).
1H1404-450 H1409-45 1M1402-45	Cataclysmic variable, AM Her type (MASO83); recurrent transient (JENS82); orbital period = 0.0706 days (BAIL83).
1H1408-031 NGC 5506	Seyfert galaxy or narrow emission line galaxy; z = 0.0056 (DEVA76), z = 0.0061 (ELVI78,SHUD80); X-ray identification (ELVI78); X-ray spectrum: photon power law index = 1.6 - 1.75 (MUSH82,STAR78), possible Fe feature (MUSH82); X-ray intensity variable, hours to days (MACC82,MUSH82,STAR78); optical (SHUD80).
1H1415+255 NGC 5548	Seyfert galaxy (PICC82), type 1, z = 0.0166 (WEED77, ADAM77); X-ray identification (ELVI78); X-ray spectrum: photon power law index = 1.56 (MUSH80a) to 1.9 (STAR78); X-ray variability (MARS81b); other HEAO-1 (DOWE80, MUSH80a); IR, optical, UV line emission (LACY82).
1H1419-774	Possibly confused.
1H1420+481 A1904 ? 2A1418+485	Cluster of galaxies; z = 0.0714 (HILL80).
1H1422+273 A1903	Cluster of galaxies; z = 0.152 (LEIR77).
1H1438-623 MSH 14-63 RCW 86 SNR 185 G315.4-2.3 PKS1439-62 Cen XR-1	Supernova remnant AD185 (HILL67), filamentary nebula; distance = 2.5 (WEST69) to 3.2 kpc (CLAR76b); X-ray spectrum: kT = 0.22-0.52 keV (NARA77), two components kT = 0.22 keV and kT > 5 keV (WINK78); other X-ray (VILL76, SEWA76b); early X-ray (FRIE67,HILL72a); optical (LUCK79); radio (HILL67).
1H1439+393 A1947	Cluster of galaxies (JOHN83); z = 0.163 (LEIR77).

1H1448+415 4U1444+43	X-ray (MURR76).
1H1449+316 A1968	Cluster of galaxies; z = 0.289 (LEIR77).
1H1450+190 A1991	Cluster of galaxies; z = 0.0589 (HOES80); X-ray image (FORM82).
1H1458-416 SN1006 G327.5+14.6 PKS1456-41	Supernova remnant; distance = 4.0 (ILOV72) to 4.9 kpc (DOWN71); X-ray spectrum: kT = 4 keV or energy power law index = 1.3 (WINK76); other X-ray (MARK77,TOOR80); optical (VAND76); radio (DOWN71).
1H1504+473 A2024/A2018	Cluster of galaxies; z(A2018) = 0.1120 (JOHN83).
1H1508+060 A2029	Cluster of galaxies; z = 0.0782 (JOHN83); kT = 6.2 keV (HINT79,PERR81,MITC79); X-ray (PICC82,MCKE80); photon power law index= 2.2 (MUSH78d,MITC79); steep radio spectrum (MILL77c).
1H1510+335 A2034	Cluster of galaxies; z = 0.151 (JOHN83).
1H1511-589 MSH 15-52 RCW 89 G320.4-1.2	Supernova remnant/pulsar; distance = 4.2 kpc, radio counterpart is MSH 15-52 (CLAR76b,ILOV72); pulsar period 150 ms (SEWA82).
1H1514+072 A2052 MX 1514+06 3C317	Cluster of galaxies; z = 0.0345 (JOHN83); X-ray MARK76b,PICC82,MCKE80).
1H1516-569 Cir X-1 BR Cir	Black hole candidate (FORM76c); distance > 8 kpc (GOSS77); highly variable 100 ms to days (JONE74); random 10 ms pulsations (TOOR77); semi-periodic bursts (SADE79a,SADE79b); period 16.59 d (KALU76,GLAS78,THOM78, KOCH79); X-ray spectrum: two component kT > 15 keV and kT < 3 keV (JONE77); other X-ray (GURS78,WILS76); radio (DULD79); infrared (GLAS79); optical (MAY076,WHEL77); early X-ray (MARG71,HILL72a,FRIE67).
1H1518+282 A2065 H1521+282 ?	Cluster of galaxies; z = 0.0721 (JOHN83,SPIN77); X-ray spectrum: kT = 2.4 - 4.5 keV (HINT79); X-ray (PICC82, HINT79,MCKE80); X-ray identification (MCKE81).
1H1521+083 A2063	Cluster of galaxies; z = 0.0337 (JOHN83); EINSTEIN image (JONE79,FORE82).

1H1521+308 A2061	Cluster of galaxies; X-ray (MCKE80,JOHN83); z = 0.0768 (SARA82,JOHN83).
1H1530+585 Mkn 290 ?	Seyfert galaxy, z = 0.03 (ADAM77).
1H1538-522 2S1538-522 QV Nor	Binary pulsar; distance = 7 kpc, orbital element (CRAM78b); periods: 529 sec and 3.75 d (DAVI77b,DAVI77d, BECK77b); X-ray spectrum: kT = 6 keV or photon power law index = 2.1 (CRUD72); other X-ray (SEWA76b,APPA78a, WILS79b); infrared (GLAS79); optical (COWL77b,COWL78, PARK78,ILOV79a); early X-ray (FRIE67).
1H1543-624 Nor XR-2	Optical candidate, UV excess (MCCL78b); X-ray spectrum: kT = 3 - 7 keV (JONE77); other X-ray (SEWA76b,APPA78a, WILS79b); other HEAO-1 (GRIFF78c); early X-ray (FRIE67).
1H1544+360 A2124	Cluster of galaxies; z = 0.0671 (JOHN83); X-ray (MCKE80).
1H1555-552 MX1553-54	Pulsar/recurrent transient; early X-ray (WALT76); transient nature (APPA78a); 9.3 s X-ray pulsations and hard X-ray spectrum (KELL82); no optical identification.
1H1556-605 1M1556-602	X-ray (APPA78a,REID80); optical identification (CHAR79c); infrared (GLAS79); early X-ray (FRIE67).
1H1556+273 A2142	Cluster of galaxies; z = 0.0904 (JOHN83); X-ray spectrum: kT = 10.3 keV (HINT79,MITC79), photon power law index = 1.37 (MUSH78d); X-ray (PICC82,MCKE80); steep radio spectrum (ERIC78).
1H1604+158 A2147	Cluster of galaxies; z = 0.0365 (JOHN83); EINSTEIN image (JONE79); X-ray spectrum: kT = 7.2 Kev (MUSH78d); other HEAO-1 (PICC82); other X-ray (COOK77,MITC79, NULS79,MCKE80).
1H1608-522 Norma Burster Norma Transient QX Nor	X-ray burster; distance < 3 kpc (MURA80); two burst modes: bright mode < 2s rise and 5-10 s decay, weak mode > 2 s rise and > 10 s decay, ~10 h between bursts, time averaged burst luminosity/steady luminosity = 1/70 to 1/500, bright source recurrence quasi period ~600 d (MURA80); X-ray spectrum: steady component kT = 4 - 10 keV, burst component kT = 2 - 12 keV (TANA76), average kT = 8 keV (FABB78); other X-ray (MARK77, APPA78a); optical (GRIN78a); other HEAO-1 (SHAR79a); early X-ray (HILL72a).
1H1613-097	X-ray (SHUL79b).

1H1613-060 A2163	Cluster of galaxies; z = 0.180 (ULME80a), z = 0.1698 (SARA82); X-ray (ULME80a); other HEAO-1 (SHUL79b, JOHN83).
1H1617-155 Sco X-1 V818 Sco	Binary, probable old nova (SAND66); estimated distance: 0.5 kpc (PATT84), 1.0 kpc upper limit (HILT70); correlated X-ray and optical, X-ray variability is highest when optically bright and X-ray spectrum is hard (CANI73,MATS74,CANI75a,MOOK75,BRAD75); variability, timescales minutes to hours (BURG70,LEWI70, PELL73,HOLT76a,WHIT76a); 0.1 - 1 s oscillations (ANGE71); orbital period, 0.787 d seen in optical (GOTT75, WRIG75, COWL75); X-ray spectrum: variable, kT = 4 - 12 keV (FRIT68,CHOD68,HILL68,MEEK69,GRAD70a,TOOR70,PARS78); Fe line (PARS78); polarization ~1% (LONG79); 1 s time structure in X-ray flares (PETR81); O absorption, 0.5 - 0.7 keV (KAHN81); other X-ray (GURS66,FRIT69b); radio (HJEL71a,WADE71); optical (MOOK71); infrared (GLAS79); gamma-ray (HAYM72); early X-ray (GIAC62,BOWY64b,CHOD65, FISH66).
1H1624-490 Nor XR-1 G334.9-0.3	X-ray spectrum: kT = 2.3 keV, Fe line (PARS78); other X-ray (SEWA76b,WILS77,APPA78a,REID80); radio (SAND74); early X-ray (FRIE67,HILL72a).
1H1626-245 Rho Oph	Star Cluster, Rho Ophiuchi Dark Cloud, distance = 0.160 kpc (MONT83).
1H1626+058 A2204	Cluster of galaxies; X-ray (ULME81a); z = 0.1524 (JOHN83).
1H1627-673 4U1626-67 KZ TrA	Binary pulsar; orbital period = 0.0288 days (MIDD81); period = 7.7 sec (RAPP77,MCCL80), P/(dP/dt) = -5300 yrs (PRAV79b); X-ray spectrum: photon power law index = 0.22 - 0.56 and varies with phase (PRAV79b); other X-ray (SEWA76b,BRAD78); optical (MCCL77c).
1H1631+394 A2199	Cluster of galaxies; X-ray (PICC82,JOHN83); z = 0.027 (LEIR77), z = 0.0305 (NOON81); EINSTEIN image (FORE82); X-ray spectrum: kT = 3.2 keV with Fe line (MUSH78d,MITC79).
1H1634+117 MC2 1635+119	Quasar; z = 0.146 (ZAMO81); X-ray/optical energy power law index = 1.2 (TANA79); EINSTEIN flux substantially lower than the 1H flux.
1H1635-642 4U1631-64	Binary X-ray source; X-ray (COOK78,SEWA76a).

1H1636-536 MXB1636-53 V801 Ara	X-ray burster (SWAN76a); orbital period = 0.148 days (PEDE81); burst duration ~50 s, time between bursts 9 - 12 h, time average burst luminosity/steady luminosity = 1/245 (HOFF77a); X-ray spectrum: burst kT = 3 keV (HOFF77a), average kT = 3 keV or power law index ~2 (PARS78); other X-ray (WILL74, SEWA76b,WILS77,GURS78,COMI80); optical bursts (PEDE82); optical (MCCL77b); radio (THOM79); early X-ray (FRIE67).
1H1639-109 Zeta Oph?	O star, distance = 190 pc; X-ray image (LONG80); X-ray (SHUL79b); possibly confused; identification with Zeta Oph is uncertain.
1H1642-455 Ara X-1 GX340+0 G339.6-0.1	Binary X-ray source; distance = 2 kpc (MARG71b,SEAQ77); H II region, probably O star (SEAQ77); X-ray variable ~1 d (FORM76c); X-ray spectrum: energy power law index = 1.6 - 2.6 or kT = 2.8 - 5 keV plus possible Fe line (PARS78), blackbody kT = 1.3 keV (MARG71b); other X-ray (SEWA76b,WILS77,APPA78a,GURS78); radio (SAND74); infrared (GLAS79); early X-ray (FRIE67,FISH68,RAPP71c, BRAD71,HILL72a).
1H1645-596 NGC 6221 ? NGC 6215 ? NGC 6215A ?	X-ray (MARS79b); proposed counterpart NGC 6221 questioned on spectroscopic grounds (PHIL79); NGC 6221 lies outside the 1H error region.
1H1645-442 GX 341+1	X-ray position (MAYE70); other X-ray (THOM75); possibly confused with 1H1642-455.
1H1651+398 Mkn 501	BL Lac object (SCHW78); z =0.0337 (ULRI75); X-ray spectrum: variable, energy power law index 0.2 - 1.5 (MUSH78b,SNIJ79,KOND81,WORR81b); other X-ray (KINZ78, WOOD79); other HEAO-1 (ULME80a,PICC82).
1H1653-083 Wolf 630	Flare star; X-ray image (VAIA81,SWAN82).
1H1656+354 Her X-1 HZ Her	Binary pulsar; distance ~5 kpc (BAHC76a); X-ray periods 1.24 s, 1.7 d, and 35 d (TANA72a,DOXS73,GIAC73,JONE76, HOLT76,KEND77,JOSS78,HOLT79c); also seen in optical (BAHC72,DAVI72,JONE73,MARG76,NELS77) and ultraviolet (GURS80); X-ray spectrum: power law with Fe line, with dependence on 35 d cycle phase and on 1.24 s cycle phase (BECK77a,PRAV77a,PRAV77b,BUNN78,PRAV79a,GRUB80); other X-ray (CLAR72,ULME73a,SHUL75,FRIT76); optical (STJO76); hard X-ray and gamma-ray, including cyclotron features (COE77,TRUM78,PRAV78,GRUB80); cyclotron line (VOGE82), pulse timing (DEET81), pulse phase spectroscopy (MCCR82); periodicity in turnons (LEVI82, KATZ82); long term variability 13-80 keV (GORE82).

1H1658-298 MXB1659-29	X-ray burster (LEWI76d); distance = 10 kpc (PATT84); orbital period = 0.296 d (COMI83); X-ray burst intervals 2 - 2.6 hrs (LEWI77c) with persistent X-ray emission (LEWI78, SHAR78a); other X-ray (DOXS79,COMI80); optical (DOXS79); early X-ray (GURS67,FISH68) (note, this is an earlier detection of the persistent emission from this source than that reported in LEWI78 and SHAR78a. The early rocket measurements and 4U1704-30 may represent still earlier detections).
1H1659-487 GX339-4	Black hole candidate (SAMI79); X-ray variability < 100 ms time scale (SAMI79); X-ray spectrum: kT = 1.7 keV, harder in low state (MARK73,JONE77); other X-ray (SEWA76b,MARK77,WILS77,PARS78,WILS79b); optical (GRIN79, DOXS79); hard X-ray spectra in 77-78 (NOLA82); rapid optical variability (MOTC82).
1H1702-437 4U1705-44	X-ray burster; surveys (HILL72a,THOM75,FORM76c); position (WILS77,JERN78b); bursts (MAKI82).
1H1702-363 Sco XR-2 Sco X-2 GX349+2	Sco X-1 type variable; correlated X-ray intensity and spectral slope ~1h timescale variability (MASO76, GREE79); X-ray spectrum: variable, kT = 5 keV (PARS78), two component kT = 6 keV and kT = 30 keV (GREE79a); other X-ray (WILS77,JERN78b,GURS78,REID80); infrared (GLAS79); early X-ray (BOWY65a,BRAD71,FRIE67).
1H1702+336 A2244	Cluster, X-ray (JOHN83,ULME81a); z = 0.0996 (KOWA83).
1H1702+456	X-ray (SHUL79b).
1H1703-013 UGC106838	Seyfert galaxy; z = 0.0308 (WILS81); X-ray and optical (WILS81).
1H1704+605 3C351?	Active galactic nucleus (ZAMO81,BLUM82); EINSTEIN flux is substantially lower than that reported here.
1H1705-250 Nova Oph 1977 V2107 Oph	Transient and optical nova; distance = 3 kpc (GRIFF78b); 2 - 3 month decay (WATS78); X-ray spectrum: past maximum kT ~3 keV (GRIF78b,WATS78); other X-ray (KALU77b, KALU77c); optical (GRIF78b).
1H1706+241 HD154791	Binary X-ray source; distance = 0.083 kpc (GARC80).
1H1706+786 A2256	Cluster of galaxies; z = 0.055 (LEIR77), z = 0.0603 (LUGG78); note optical and radio galaxy NB78.26, z = 0.0586 (BURB79); EINSTEIN image (JONE79, FORE82); X-ray spectrum: kT = 7 keV and Fe line (MUSH78d,MITC79); other X-ray (NULS79,MCKE80); radio (COST72); other HEAO-1 (PICC82,JOHN83).

1H1708-405 4U1708-40	X-ray (FISH68,MARK77).
1H1712-337 A1710-34	X-ray (FISH68,HILL72a,CARP77).
1H1712+490 A2251	Cluster of galaxies; z = 0.1147 (KOWA83), z=0.1880 (JOHN83); X-ray (SHUL79b,ULME80a).
1H1712+641 A2255	Cluster of galaxies; X-ray (MCKE80); z = 0.062 (LEIR77), z = 0.0810 (JOHN83); EINSTEIN image (FORE82).
1H1715-321 2S1715-321	X-ray burster; X-ray flare 5 - 10 m duration (MARK76b); fast transient event (HOFF78); other X-ray (MARK77, JERN78b,REID80,MAKI81); infrared (GLAS79).
1H1718+242 V396 Her 1720+249	Quasar, z = 0.175(BURB77); X-ray (TANA79,ZAMO81,BLUM82); optical (PUET81).
1H1720+269 A2263	Cluster of galaxies; X-ray (JOHN83); z = 0.118 (LEIR77).
1H1728-334 MXB 1728-34 MXB 1730-335 ?	X-ray burster, bursting at 4-8 hour intervals (LEWI76a); enhanced soft X-ray emission during early part of burst (HOFF77b); bursts with double temporal structure (HOFF79); identification with globular cluster, distance = 10 kpc (GRIN81b); resolved risetimes for 4 bursts, evidence for a 12 ms period during one burst (SADE82a); early X-ray (FRIE67). MXB 1730-335, which was active when HEAO-1 scanned it in 1977 (DOXS78), is confused with MXB 1728-34 in the HEAO A-1 scan modules, hence the intensity shown in the catalog may include some contribution from that source.
1H1728-247 GX1+4 V2116 Oph	Binary pulsar, compact nebula surrounding central source (DAVI76a); P ~135 s (LEWI71b); period = 2 min (DOTY81), 4 min (STRI8O); other X-ray (GLAS73,RICK73,THOM75, RICK76b,WHIT76b,DOXS77,BRAD79); distance = 10 kpc (DAVI77a); hard X-ray (MAUR82).
1H1728-213 Kepler's SNR	Supernova remnant; distance = 5 kpc upper limit, EINSTEIN SSS spectrum (BECK80).
1H1728-169 GX9+9 Oph XR-1	Sco X-1 type variable; distance = 4.4kpc (DAVI76a); correlated X-ray intensity and spectral slope (MASO76, CHAR77a,GREE79a); X-ray spectrum: variable, kT = 4.5 - 7 keV (MASO76,PARS78); other X-ray (WILL74,DOXS77a,WILS77, GURS78); radio (DULD79); infrared (GLAS79); early X-ray (BOWY65a,BOWY65b,FRIE67,BRAD68).

1H1730+500 I ZW 186	Quasar; BL Lac object, z = 0.055 (OKE78); optical spectral index 0.97 (WEIS81); X-ray (CHUB78,SHUL79b).
1H1735-444 MXB1735-44 V926 Sco	X-ray burster; distance = 10 kpc upper limit (MCCL78a); estimated distance = 7 kpc, orbital period = .18 days (PATT84); X-ray burst duration 3 - 7 s (LEWI77a), and intervals 1 h - 2 d (LEWI77c), also in optical (GRIN78b); Sco X-1 type behavior (WHIT80a); X-ray spectrum: variable kT = 5 - 8.5 keV (PARS78,WHIT80a); other X-ray (WILS77,GURS78,LEWI79,LEWI80,COMI80); radio (DULD79); early X-ray (FRIE67).
1H1735+400 A2278	Cluster of galaxies; z = 0.190 (LEIR77).
1H1740+329 1742+33 ?	Active galactic nucleus; z = 0.757 (BURB79).
1H1741-322 H1743-322	Bright X-ray transient; duration ~200 d (KALU77a, KALU77c,DOXS77c,GURS78,WOOD78b).
1H1744-293 Sgr XR-1 GCX Region MXB1743-29	Galactic center region; includes a number of X-ray sources (CRUD78,PROC78,EYLE79), including X-ray bursters (WILS77,LEWI79) one of which (MXB1743-29) emits bursts of duration ~30s at 35 h intervals (HOFF80); peak burst X-ray luminosity (INOU81); X-ray map of region (WATS81a); X-ray spectrum: 3 keV < kT < 7 keV (JONE77); other X-ray (EYLE75a,CARP77,JERN78b); radio (DAVI76b); infrared (GLAS79); optical (MURD80); early X-ray (BOWY65a,FRIE67,FISH68).
1H1744-265 GX3+1 Sgr XR-1	X-ray variability ~1 d (FORM76c); X-ray spectrum: kT = 3 - 5 keV with Fe line (PARS78); other X-ray (JANE73, DOXS77a,REID80); early X-ray (ODA65,GURS67,BRAD68, FISH68,SCHN70); peak burst X-ray luminosity (INOU81).
1H1746-370 NGC 6441	Globular cluster; distance = 9.3 kpc (ILLI76); X-ray emission highly variable (CLAR75,CARP77); burst reported (LI77a); X-ray spectrum: kT = 4 - 7 keV or energy power law index = 1.6 (JONE77); other X-ray (GRIN76b,WILS77, JERN79); radio (PURT77,SEAQ77); early X-ray (GURS67).
1H1748+685 Mkn 507?	Seyfert galaxy, z = 0.056 (ADAM77); possibly confused.
1H1754-338 Sco XR-6	Cataclysmic variable with orbital period = 0.182 (WHIT83B); X-ray spectrum kT ~2 keV (PARS78); other X-ray (WILS77, JERN78b); optical (MCCL78b), optical position (SHAW80).

1H1758-250
GX5-1
Sgr XR-3

Sco X-1 type variable, correlated X-ray intensity and spectral slope ~1 h time scale variability (MASO76, GREE79a); X-ray spectrum: variable, kT = 3 - 8 keV or energy power law index ~2 and possible Fe line (PARS78, MASO76); other X-ray (HOFF73,WILL74,WILS77,JERN78b, REID80); optical (DAVI76a); infrared (GLAS79); early X-ray (GURS67,BRAD68,FISH68,SCHN70).

1H1758-205
GX9+1
Sgr XR-3

Variable X-ray source; 1 d time scale (FORM76c); X-ray spectrum: kT ~4 keV (PARS78); other X-ray (WILL74, DOXS77a,DAVI77c,WILS77,REID80); radio (ZAUM72) infrared (GLAS69); early X-ray (GURS67,FRIE67,BRAD68, FISH68,SCHN70).

1H1803+696
3C371

Quasar; z = 0.0500 (BURB79); 80 day X-ray light curve (SNYD82); EINSTEIN observation (BLUM82,SCHW83).

1H1811-171
Sgr XR-2
GX13+1

X-ray variability ~1 d timescale (FORM76c), no significant variability (WHIT78c); X-ray spectrum: kT = 2.4 - 3.2 keV with Fe line (PARS78); other X-ray (DOXS77a,WILS77); infrared (GLAS79); early X-ray (BOWY65a,BOWY65b,FRIE67,GURS67,FISH68,BRAD68).

1H1811+670
1803+676

Quasar; z = 0.136 (ZAMO81); X-ray image (ZAMO81); other HEAO-1 (SHUL79b).

1H1812-182

X-ray (MAYE70,DOLA70,BRAD71,CRUD72,SEWA72); optical (DAVI76a), confused with 1H1811-171.

1H1813-140
Ser XR-2
GX17+2

Sco X-1 type variable (GREE79a); G dwarf star (DAVI76a, HJEL78); distance = 1.4 kpc (MARG78e); X-ray variability ~6000 s (TANA71b); flaring ~1 h (WHIT78c); X-ray spectrum: variable, kT = 9.3 keV (KAST76), kT = 4 - 5 keV with Fe line (PARS78); other X-ray (DOXS77a,WILS77); radio (WHIT78c); infrared (GLAS79); early X-ray (FRIE67, BRAD68,FISH68).

1H1814+498
AM Her

Cataclysmic variable; distance estimates = .075 kpc (PATT84) and .300 kpc (CHAN77,SWAN77); orbital period = 186 min in X-ray, UV, optical, and IR (HEAR77,SZKO77,COWL77a,TAPI77,PRIE77,PRIE78a, JAME78,RAYM79); X-ray spectrum: soft component, kT 0.04 keV (BUNN78,TUOH78,HAYA79), during soft X-ray eclipse kT ~180 keV (SWAN77), hard X-ray spectrum (ROTH81); other X-ray (SZKO80,FABB81); optical (BERG77, GREE77); eclipse in low state (FABB82); UV (SZKO82).

1H1815-121
4U1812-12

X-ray (VILL76).

1H1820-303 NGC 6624 MXB1820-30	Globular cluster; distance = 8.3 kpc (LILL78); X-ray bursts ~3 min duration, ~0.14 d interval (GRIN75c, CANI75b,CLAR76a,GRIN76a,CLAR77,LEWI79); X-ray spectrum: energy power law index = 0.4 - 1.1 or kT = 4.3 - 15 keV plus possible Fe line (PARS78); other X-ray (CLAR75, WILS77,JERN79); optical (BAHC76b); optical position (SHAW80); early X-ray (FRIE67,GURS67).
1H1820+643 H1822+643	Quasar, z = 0.297 (NUGE83); optical and EINSTEIN IPC (PRAV84).
1H1822-371 4U1822-37 V691 CrA	Binary X-ray source; distance > 0.6 kpc (MASO80); distance = 0.5 kpc (PATT84); period = 5.57 h in optical (CHAR80); X-ray spectrum: black body kT ~2.4 keV (CHAR80); other X-ray and optical (GRIF78a); X-ray period = 5.57 h (MASO80); IR,optical,UV (MASO82b); UV detection of disk bulge (MASO82a); orbital elements (COWL82a); X-ray flux modulated at 5.57 h (WHIT81b).
1H1822+000 4U1823-00	X-ray spectrum: 3 - 7 keV (JONE77); other X-ray (SEWA76a,DOXS77b,WILS79b,REID80).
1H1828-105 MSH 18-113	Supernova remnant; distance = 3.5 kpc (ILOV72); X-ray (SEWA76a,VILL76); X-ray image (BECK81).
1H1832-652 ESO 103-G25	Seyfert galaxy; X-ray (PICC82); z = 0.013 (WEED79).
1H1832-076 Sct X-1	X-ray (HILL74); X-ray position (REID80).
1H1835+326 3C382	Galaxy; z = 0.058 (SMIT78); X-ray (MARS78,DOWE80); optical classification D3 (BURB79).
1H1836-786 STR1839-787 ?	Cluster of galaxies; z > 0.2 (DUUS77); X-ray (PICC82).
1H1837+049 Ser XR-1 MXB1837+05	X-ray burster (SWAN76c,LI76b); distance = 7 kpc (VANP78); X-ray burst duration 3 - 10 s, burst interval ~6.3 h (LI77c); significant X-ray variability ~0.1 s timescale (LI77c,COE78); simultaneous X-ray and optical bursts (HACK79); X-ray spectrum: kT ~4 keV (PARS78); other X-ray (SEWA76a,DOXS77b,BERN79,COMI80); optical (DAVI75a,MARG78d,THOR78,THOR80); early X-ray (BOWY65a,FRIE67).
1H1840-050 4U1832-05 G27.3+0.0	Supernova remnant, distance = 3.2 kpc (ILOV72); X-ray observation (SEWA76a).

1H1840+729 A2310	Cluster of galaxies; z = 0.148 (LEIR77); X-ray (SHUL79b).
1H1845-024 4U1850-03	X-ray (VILL76,SEWA76a,DOXS77b); infrared (GLAS79).
1H1849+379 4U1852+370	Possible confusion.
1H1850-087 NGC 6712 MXB1850-08	X-ray burster in globular cluster (SWAN76b); distance = 6.8 kpc (PETE75); multiple-peaked X-ray burst structure (HOFF80); other X-ray (SEWA76a,COMI77,DOXS77b); optical (JERN79).
1H1852+015 W44	Supernova remnant, distance = 3.0 kpc (DOWN71).
1H1853-312 V1223 Sgr	Cataclysmic variable, orbital period = 0.1408 days (PATT84); rotation period 13.2 min, distance < few hundred pc. (STEI81a).
1H1858+797 3C390.3	N-galaxy; z = 0.0569 (BURB79); X-ray (CHAR75a,MARS78, ELVI78); radio (SMIT76); optical (SHEN72,OSTE77).
1H1903+689 A2315 ? A2312 ?	Cluster of galaxies (JOHN83); z(A2315) = 0.104 (LEIR77).
1H1905+000 MXB1906+00	X-ray burster (LEWI76c); X-ray burst duration ~20 s, burst interval ~8.9 hr, time average burst luminosity/ steady luminosity ~1/80 (LEWI76b); other X-ray (REID80, LEWI79,DOXS77b,VILL76,SEWA76a); early X-ray (FRIE67).
1H1907+074 4U1909+07 3A1907+074	X-ray (SEWA76a,REID80).
1H1908+047 SS433 W50 V1343 Aql	Compact binary source with high intensity optical line emission located in supernova remnant; distance = 3.3 - 5.5 kpc (RYLE78,HJEL81b); variable in X-rays, optical and radio (CLAR78c,SEAQ79,JOHN81b); X-ray image: extended X-ray emission aligned with jets (SEWA80); X-ray spectrum, kT = 14 keV with Fe line (MARS79c); period, 164 d (MILG79, MARG79,HJEL81b); 6.3 d short-term periodicity (due to "nodding" motions of precessing accretion disk) (KATZ82); simultaneous X-ray and radio (SEAQ82); other X-ray (SEWA76a); radio and optical (MARG79,KAPL80); radio image (GILM80,GILM81,HJEL81a,HJEL81b).

1H1909+096 4U1907+09	Binary, OB supergiant? distance = 2 - 13 kpc (SCHW80c); period = 8.38 d (MARS80); X-ray spectrum: photon power law index = 0.73 (SCHW72); rapid variability (SADE82b); variability timescales down to 20 sec (SCHW80c; other X-ray (SEWA76a).
1H1911-589 ESO 141-G55	Seyfert galaxy (MARS81b); type 1, z = 0.0368 (WEED78); X-ray variability (MARS81b); X-ray spectrum: photon power law index = 1.8 (MUSH80a); other X-ray (ELVI78).
1H1916-053 MXB1916-05	X-ray burster (LEWI77b); burst duration = 8 s (BECK77b); 3 - 6 hours between recurrent bursts (SWAN84); 50 min binary period (absorption dips) (WHIT82b,WALT82); X-ray spectrum (BECK77); other X-ray (SEWA76a,DOXS77b); optical counterpart (WALT82); optical (CHAR79c).
1H1919+438 A2319	Cluster of galaxies (JOHN83,NUGE83); z = 0.044 (LEIR77), z = 0.0529 (NOON81); X-ray spectrum: kT = 12.5 keV (MUSH78d), soft X-ray kT = 6.9 keV (REIC81); X-ray image (JONE79,WHIT80b); other X-ray (ROWA75,GRIN77a,SCHW79c, NULS79,MITC79); radio (GRIN77a).
1H1922+154 4U1918+15 A1918+14	X-ray transient; UHURU position (FORM78) in better agreement with HEAO-1 than Ariel V (VILL76,SEWA76a); X-ray spectrum: energy power law index = 1.25, kT = 6 keV (COMI78a); early X-ray (GURS67).
1H1930+302 G65.2+5.7	Supernova remnant; distance = 1.2 kpc (GULL77); X-ray spectrum, kT = 0.2 - 0.4 keV with line emission near 0.8 keV (MASO79b); located near edge of X-ray superbubble in Cygnus (CASH80); other X-ray (SNYD78).
1H1934-063 HD185510	RS CVn system (HALL84).
1H1937-106 NGC 6814	Seyfert galaxy; type 1, z = 0.0053 (WEED77); X-ray spectrum: photon power law index = 1.74 or KT = 26 keV (MUSH80a); X-ray variability (MARS81b), 100 sec variability (TENN81), alternate interpretation assuming constant source (BEAL83); other X-ray (ELVI78).
1H1956+115 4U1957+11	X-ray (SEWA76a,DOXS77b).

1H1956+350 Cyg X-1 HDE 226868	Black hole candidate; optical companion, orbital period 5.6 d (WEBS72,BOLT72); distance = 2.5 kpc (BREG73, MARG73) spectral type O9.7 Iab (WALB73); constraints on X-ray secondary (MARG73,HUTC73,HUTC74b,SHAF80) rapid X-ray variability, characterized as shot noise with timescales down to milliseconds (ODA71,ROTH74,ROTH77, WEIS78b,CANI77,MEEK79,GILE81,MEEK83); X-ray flares with durations 1-10 s (CANI77); high and low states (TANA72b, HOLT79a); low state power law spectral index 1.5 (MEEK69,ROTH77); high state spectrum softer (HOLT79a, DOLA79); EINSTEIN and IUE spectrum, UV to X-rays (PRAV80b); HEAO-1 hard X-ray spectrum (NOLA81); radio (HJEL71b); early X-ray (FRIE67,GIAC67b,ODA71,GURS71b).
1H1958+406 Cyg A Cluster 3C405	Cluster of galaxies (BRIN77,FABB79); z = 0.0570 (BURB79); X-ray spectrum: photon power law index = 1.1-1.3 (LONG74,BRIN77); optical (OSTE75).
1H2012-567 SC2008-569	Cluster of galaxies; z = 0.06 (BAHC77d); other HEAO-1 (PICC82).
1H2018+366 4U2019+39? G74.8+0.6	Supernova remnant; distance = 12.3 kpc (ILOV72); interpretation of source as SNR disputed (CLAR76b).
1H2030+407 Cyg X-3 V1521 Cyg	Binary X-ray source; distance = 10.5 kpc (LAUQ72); orbital period 4.8 hours (PARS72), change in orbital period (LAMB79); light curve modulations, apsidal motions (ELSN80,VAND82); Fe line (PARS76,SANF75, KEST77); optical counterpart(LAUQ72); radio outbursts (GREG72,HJEL72,LEDD76,GELD83); radio structure changes at near-relativistic velocities (GELD83); early X-ray (FRIE67).
1H2031-330 AT Mic	Flare star (TSIK82); X-ray flares, distance = 0.0082 kpc (KAHN79).
1H2041-108 Mkn 509	Seyfert galaxy; z = 0.0355 (WEED77); X-ray spectrum, 14-140 keV (DIL81); X-ray (ELVI78); other HEAO-1 (PICC82).
1H2041+756 VW Cep	W UMa star; X-ray (CARR80); X-ray image, spectrum (CRUD83).
1H2050+310 Cygnus Loop	Supernova remnant; distance = 800 pc (ILOV72); EINSTEIN image (TUOH79); low-energy spectrum as function of position within SNR (KAYA80); X-ray line emission, O and Fe in 0.6 - 0.9 keV, kT = 0.3 keV (KAHN80,GRAD70b,BUNN73).
1H2109+818	X-ray (SHUL79b).

1H2128+120 M15 NGC 7078	Globular cluster; distance = 10 kpc (PETE75); X-ray position (GRIN81a,JERN79); cluster structure (BAHC76b, BAHC77b,NEWE76,PETE75); X-ray identified with cluster core (GIAC74,CLAR75,GRIN81a); X-ray highly variable (CLAR75); UV peaked in core (DUPR79); radio (JOHN76); optical (GRIN77b); other X-ray (PYE76,ULME76,BRAD79, LEWI81).
1H2131+473 4U2129+47 V1727 Cyg	Binary X-ray source; distance = 1.2 - 1.6 kpc (THOR79); orbit period = 5.2 h (THOR79,ULME80b,MCCL81,THOR82); X-ray light curve independent of energy, 1 - 7 keV band (MCCL82); compact object mass ~0.5 solar mass (THOR82); similar to HZ Her (MCCL81); X-ray position (THOR79); optical (THOR79,THOR82).
1H2138+579 Cep X-1	Transient; X-ray spectrum, kT ~20 keV (ULME73b).
1H2140+433 SS Cyg	Cataclysmic variable, U Gem type (PATT84); distance estimates = 0.095 kpc (PATT84), 0.150 pc (CORD81); period = 7.3 to 9.7 s (CORD78,PATT78,HORN80,CORD80, HILD81), 6.6 h binary period (JOY56,COWL80); X-ray pulsations, random walk of pulse phase (CORD80); optical oscillations (HILD81) other optical (KIPL79, FABB81, WALK81); UV (MARG78c,FABB81); other X-ray (HEIS78, MASO79a,RAPP74,RICK79,WATS78b,FABB81).
1H2142+380 Cyg X-2 V1341 Cyg	Binary X-ray source; distance = 250 pc (BRAN80); distance = 8 kpc (MARA80a); proposed binary periods 9.8 d to 13.6 d (ILOV79b,HOLT76b,CHEV75,COWL79,CRAM78c) and 20.6 h (CRAM76); mass of X-ray (BURG73a,TANA71a,TOOR71); X-ray spectrum: kT = 3 to 10 keV (ULME74a,BLEA72); X-ray luminosity (BRAD79); optical variations (BOPP74,JOHN69); radio (HJEL71b); UV (MARA80a); early X-ray (FRIE67,GIAC67A).
1H2148-200 A2384	Cluster of galaxies; z = 0.0943 (SARA82); other Abell clusters nearby; X-ray (JOHN83,ULME81a).
1H2150+171 A2390	Cluster of galaxies; z = 0.1950 (JOHN83).
1H2156-304 PKS2155-304	BL Lac object; z = 0.17 (CHAR79a); X-ray variability 1 s to 1 d (AGRA79), but see (SNYD80), factor of 2 in 6 h (SNYD80,URRY82); photon power law index ~2.4 (AGRA79, GRIF79c,URRY82); X-ray position (PICC82); polarization 2 to 5 % in optical (GRIF79c); infrared (GLAS81); optical (GREE79b); UV (MARA80); X-ray (SCHW79b).
1H2158-602 STR2159-602	Cluster of galaxies; z = 0.1008 (PICC82); other X-ray (MARK76b,MURR76).

1H2158-150 2155-152	Quasar, z = 0.200, X-ray image (ZAMO81).
1H2158+046 2201+044 ?	BL lac object; z = 0.0281 (BURB79); rapid optical variability (MILL77b).
1H2205+538 4U2206+54	Recurrent transient; X-ray (VILL76,ULME73b); Be star/neutron star binary system at 2.5 kpc (STEI84).
1H2206-052 A2415	Cluster of galaxies (JOHN83,ULME81a); z = 0.069 (LEIR77); other HEAO-1 (MCKE80).
1H2207+455 AR Lac	RS CVn system, distance = 0.050 kpc, orbital period = 1.98 days (HALL84).
1H2207+829 A2387 ?	Cluster of galaxies (JOHN83); z = 0.1420 (JOHN83).
1H2209-470 NGC 7213 STR2206-474	Seyfert galaxy (MARS79b); z = 0.0058 (DEVA76); other HEAO-1 (DOWE80).
1H2221-017 A2440 3C445	Cluster of galaxies (JOHN83,ULME81a,MCKE80,MARS79b); z(A2440) = 0.0573 (NOON81); alternate identification Seyfert galaxy (MARS79b,PICC82); z(3C445) = 0.0562 (BURB79).
1H2226-269 NGC 7313/4	Seyfert galaxy or narrow emission-line galaxy (PICC82, MARS81b); z(7314) = 0.0056 (DEVA76); X-ray variability (MARS81b).
1H2251-179 MR 2251-178 2A2251-179	Quasar (RICK78); z = 0.0653 (PHIL80) to 0.0680 (MARS81b); X-ray variability (MARS81b); optical (PHIL80).
1H2251-035 H2252-035 AO Psc	Binary pulsar/cataclysmic variable (MARS79b,PATT81a); distance = 100 to 750 pc (WHIT81a); optical: pulse period 858 sec, orbital period = 3.6 hrs (PATT81a); X-ray: period = 805 sec arising from beating of optical periods (WHIT81a); X-ray spectrum: photon power law index = 1.4 or kT > 20 keV with Fe line (WHIT81a).
1H2251+167 HD216489	RS CVn system, distance = .055 kpc (HALL84).
1H2251+450 EV Lac	Flare star, distance = .005 kpc (VAN72); type dM4.5e, period = 4.37 days (PETT84); X-ray flares with decay times = 22 and 78 min, ratio of flare to quiscent luminosity = 40 (AMBR84).
1H2256+057 A2507 ?	Cluster of galaxies (JOHN83,ULME81a); z = 0.196 (LEIR77).

1H2258+585 H2309+59 1E2259+586 G109.1-1.0	Binary pulsar (FAHL81); distance = 3.6-4.7 kpc (GREG80,HUGH81); pulse period = 3.49 s (FAHL81); orbital period = 0.0266 (MIDD82); X-ray detection (WOOD78a); X-ray image: point source in supernova remnant shell plus jet (GREG80); optical counterpart (FAHL82); SNR radio structure (HUGH81).
1H2301+086 NGC 7469	Seyfert galaxy; z = 0.0167 (PICC82).
1H2307-222 A2550 ?	Cluster of galaxies; X-ray (ULME81a); z = 0.1660 (LEIR77), z = 0.1543 (KOWA83).
1H2315-423 NGC 7582	Seyfert galaxy; z = 0.0048 (PICC82); X-ray variable on timescale < 1 week (MUSH82); X-ray spectrum: for 2 - 20 keV band, photon power law index ~1.8 (MUSH82); X-ray images (MACC81).
1H2315+257 3C 463	Quasar; z = 0.875 (BURB77).
1H2319+188 A2572 ?	Cluster of galaxies; X-ray (ULME81a); z = 0.046 (LEIR77).
1H2320+146 A2593	Cluster of galaxies; X-ray (ULME81a); z = 0.0440 (NOON81), z = 0.046 (LEIR77).
1H2321+585 Cas A	Supernova remnant; distance = 2.8 kpc (ILOV72); EINSTEIN SSS Spectrum (BECK79b); X-ray spectra and line emission (Si, S, Ar, Fe) (BECK79,DAVI76c,HILL75,PRAV76, SERL73); X-ray spectrum: two component kT ~1 keV and ~4 keV (CHAR75b,DAVI76c); X-ray structure similar to radio (CHAR77b) but with two concentric shells (FABI80); EINSTEIN HRI image (MURR79); radio (BELL75, ROSE70); early X-ray (FRIE67,GORE70).
1H2323+165 A2589	Cluster of galaxies; z = 0.0421 (JOHN83); X-ray spectrum (MITC79,MUSH78d).
1H2336+462 Lambda And	RS CVn system; distance = 0.024 kpc, orbital period = 20.5 days (HALL84).
1H2343+090 A2657	Cluster of galaxies; X-ray (JOHN83,MCKE80,ULME81a); z = 0.0414 (PICC82), z = 0.045 (LEIR77).
1H2348-281 Klem 44	Cluster of galaxies; z = 0.0276 (CHIN78).
1H2352+109 A2675	Cluster of galaxies; z = 0.0726 (SARA82).

1H2354+285 II Peg HD224085	RS CVn binary system (SCHW81); distance = 26 pc (WALT81a); radio (SPAN77).
1H2357-126 A2704	Cluster of galaxies; z = 0.227 (LEIR77).

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Zaumen et al., (1972), Nat. 235, 378

TABLE 7

CLASSIFICATIONS OF IDENTIFIED SOURCES

Active Galactic Nuclei:		90
BL Lacertae Objects:	13	
N Galaxies:	4	
Quasars:	20	
Seyfert Galaxies:	37	
Others AGNs	16	
Clusters, Groups, Galaxies:		176
Clusters:	158	
Loose Groups:	14	
Other Galaxies:	4	
Binary X-ray Sources (Galaxy plus Magellanic Clouds):		98
Black Hole Candidates:	5	
Binary Pulsars:	14	
Cataclysmic Variables:	10	
X-ray Bursters:	16	
Globular Clusters:	2	
Transients:	2	
Other Compact Sources:	49	
Supernova Remnants:		22
Stellar Coronae:		28
RS CVn Systems:	12	
Flare Stars:	6	
W Ursae Majoris Stars:	1	
Other Stars:	4	
Star Formation Regions, Associations:	5	
No Classification Proposed:		428

Figure Captions

Fig. 1 — Schematic of the A-1 instrument as placed in the HEAO-1 spacecraft.

Fig. 2 — Cross-sectional view of the sensor module, showing heat shield, front strongback, proportional counter, control counter, and gas tank.

Fig. 3 — Angular Response of a single 1° × 4° sensor module (Module 1, 2, 3, or 4). Here and in Figures 4, 5 and 6, the total response is $R_s \times R_p$.

Fig. 4 — Angular Response of the 8° × 2° sensor module (Module 7).

Fig. 5 — Angular Response of a 1° × 1/2° sensor module (Module 5 or 6).

Fig. 6 — Composite Angular Response of the scan modules (Modules 1, 2, 3, and 4).

Fig. 7 — Detector Efficiency. Shown are the detection efficiencies (defined as the fraction of incident photons actually counted allowing for quantum efficiency, resolution and descriminator settings) for layer A, layer B, and for their sum, as a function of photon energy.

Fig. 8 — HEAO-1 scan geometry. All scans run normal to the ecliptic (because the spin axis follows the sun) and intersect at the ecliptic poles. Arrows indicate how the scan plane advances daily. The plot is in galactic coordinates.

Fig. 9 — Scan summation. This shows enhancement of signal to noise in a selected group of PHA channels as scans are summed. (The vertical scale is *fixed* in cts $cm^{-2}s^{-1}$, hence sources stay at fixed height while noise level decreases.)

Fig. 10 — 1-day scan summations. Each day represents an independent summation. These sums and the 4-day sums are used for first stage fitting, as described in Part II.

Fig. 11 — Four day sum segment, with superposition of first-stage fits is shown at the bottom. The upper portion of the figure shows predicted source positions and intensities based on literature published prior to HEAO-1.

Fig. 12 — Visualization of constant intensity second stage fit technique. Top: representation of variation of source intensity over successive days (compare actual data in Fig. 10.) Bottom: by fitting $R_p(\theta)$ to first stage fits and scan latitudes, source localization in the r - direction is obtained.

Fig. 13 — Sky exposure for first six months. The gray scale plot shows exposure (= area x time) accumulated on each sky bin. The display is an Aitoff projection in celestial coordinates. The two ecliptic poles appear as regions of very high exposure.

Fig. 14 — Display, in galactic coordinates, of sources listed in Part III. The dot radius represents source intensity, with radius of the dot proportional to the logarithm of the intensity shown in the catalog (Part III).

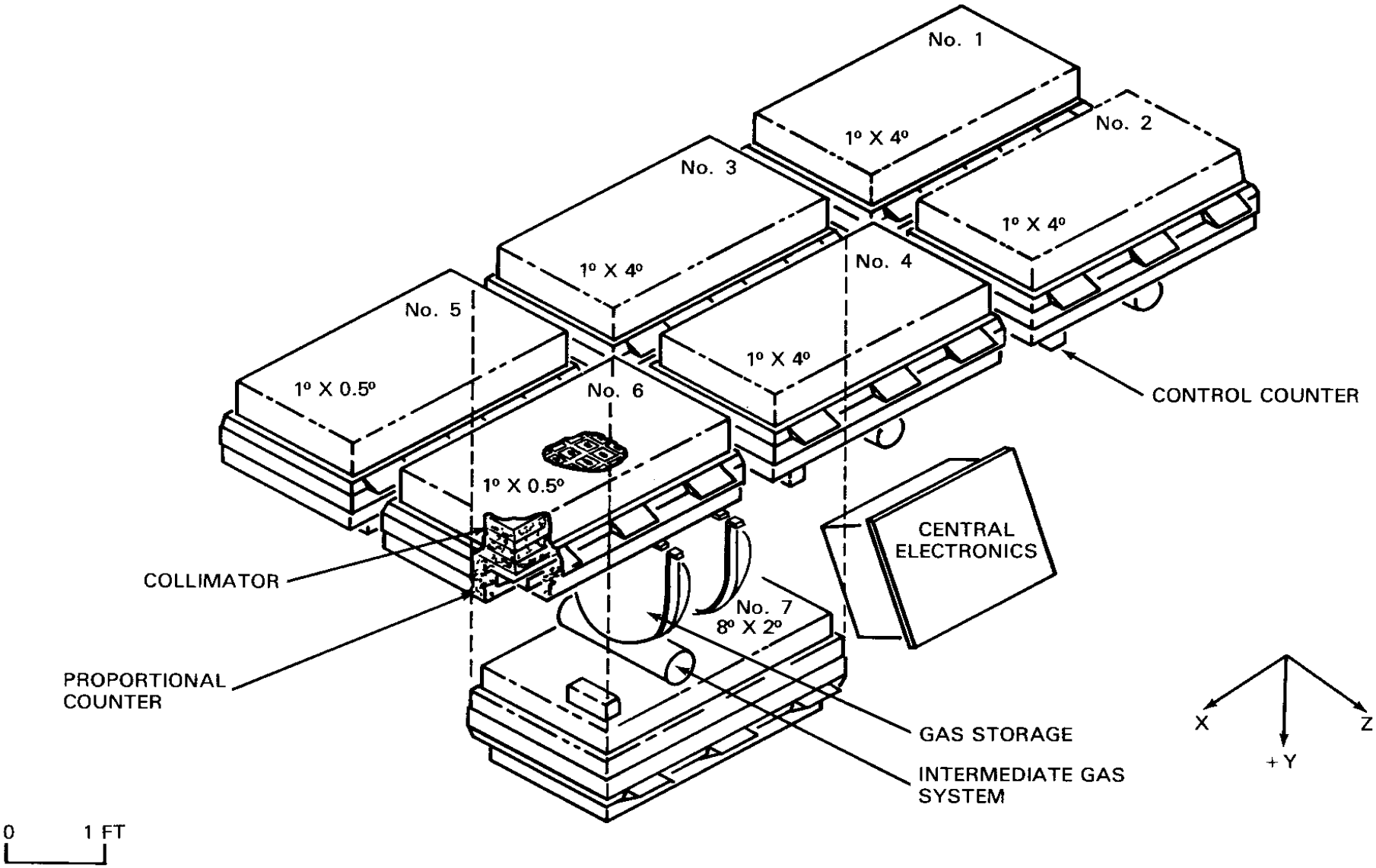

No. 1
1° X 4°
No. 2
1° X 4°
No. 3
1° X 4°
No. 4
1° X 4°
No. 5
1° X 0.5°
No. 6
1° X 0.5°
CONTROL COUNTER
CENTRAL ELECTRONICS
COLLIMATOR
No. 7
8° X 2°
PROPORTIONAL COUNTER
GAS STORAGE
INTERMEDIATE GAS SYSTEM
X
Z
+Y
0
1 FT

Figure 1

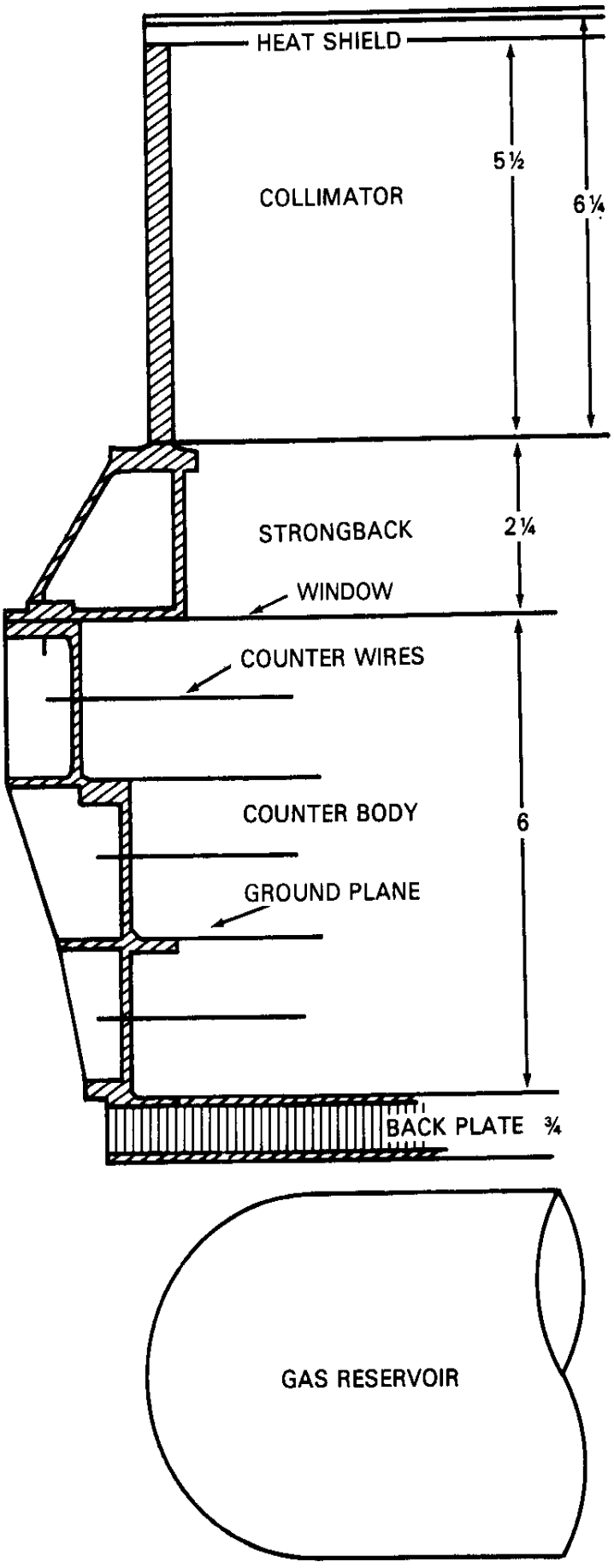

HEAT SHIELD
5½
6¼
COLLIMATOR
STRONGBACK
2¼
WINDOW
COUNTER WIRES
COUNTER BODY
6
GROUND PLANE
BACK PLATE ¾
GAS RESERVOIR

Figure 2

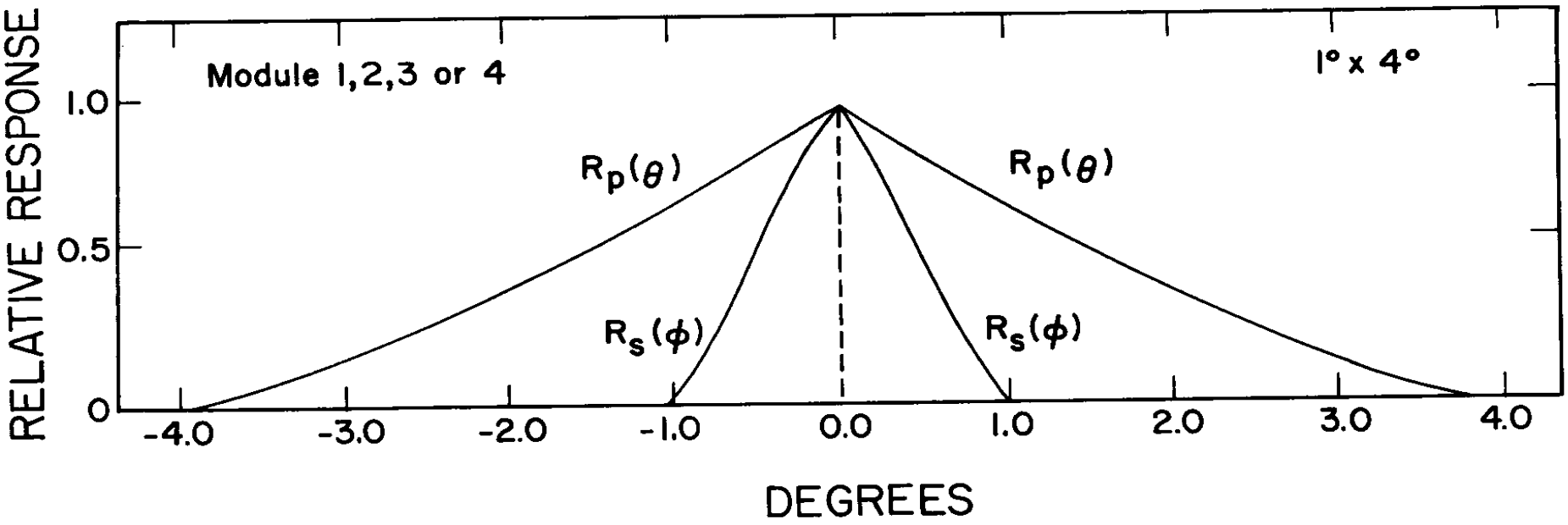

Module 1,2,3 or 4
1° x 4°
RELATIVE RESPONSE
1.0
0.5
0
$R_p(\theta)$
$R_p(\theta)$
$R_s(\phi)$
$R_s(\phi)$
-4.0
-3.0
-2.0
-1.0
0.0
1.0
2.0
3.0
4.0
DEGREES

Figure 3

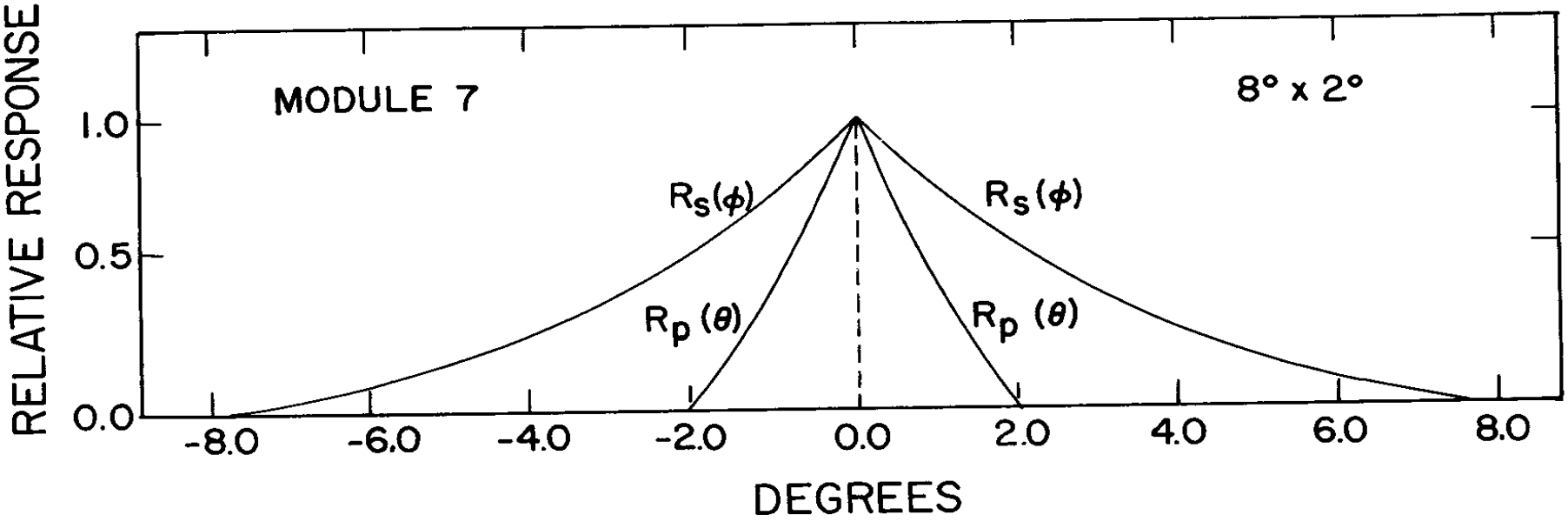

MODULE 7
8° x 2°
RELATIVE RESPONSE
1.0
0.5
0.0
$R_s(\phi)$
$R_s(\phi)$
$R_p(\theta)$
$R_p(\theta)$
-8.0
-6.0
-4.0
-2.0
0.0
2.0
4.0
6.0
8.0
DEGREES

Figure 4

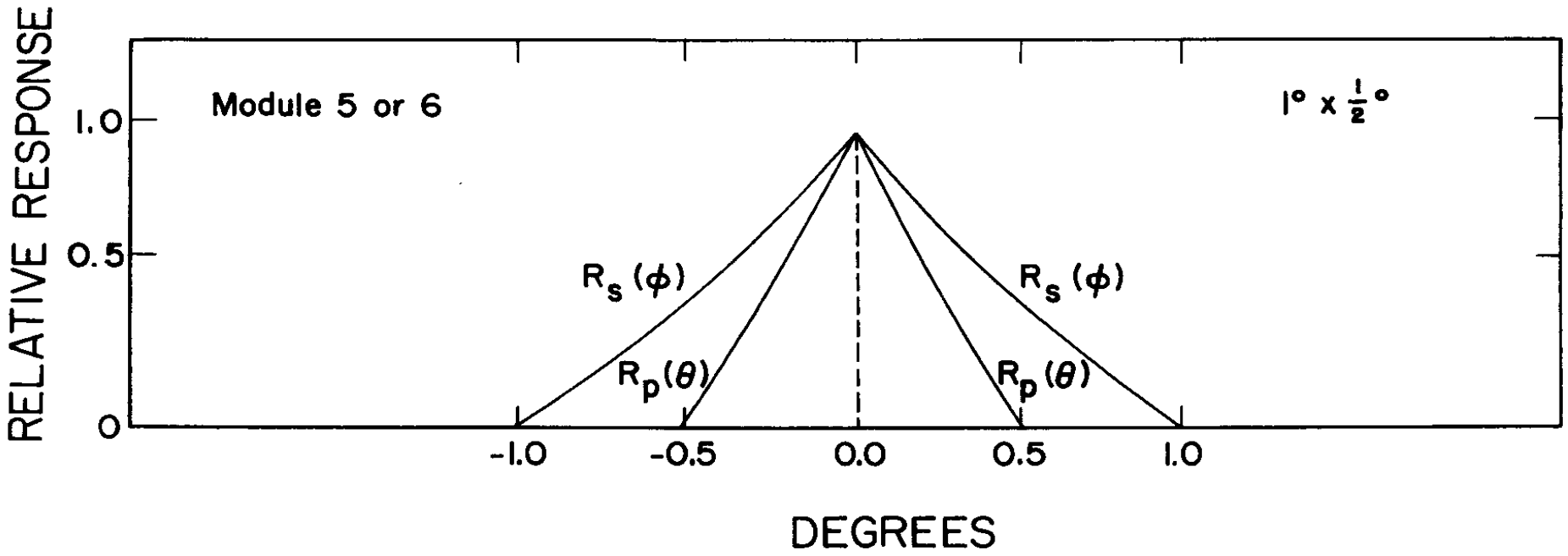

RELATIVE RESPONSE
1.0
0.5
0
Module 5 or 6
1° x ½°
$R_s(\phi)$
$R_p(\theta)$
$R_s(\phi)$
$R_p(\theta)$
-1.0
-0.5
0.0
0.5
1.0
DEGREES

Figure 5

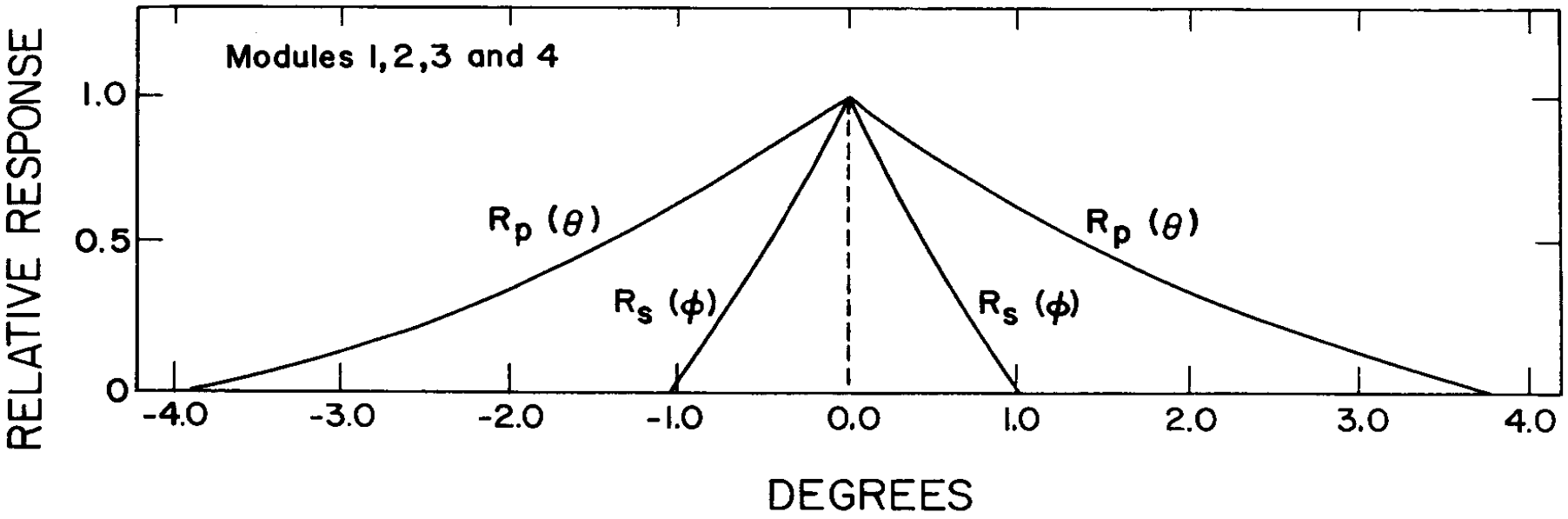

Modules 1, 2, 3 and 4
RELATIVE RESPONSE
1.0
0.5
0
R_p (θ)
R_s (ϕ)
R_s (ϕ)
R_p (θ)
-4.0
-3.0
-2.0
-1.0
0.0
1.0
2.0
3.0
4.0
DEGREES

Figure 6

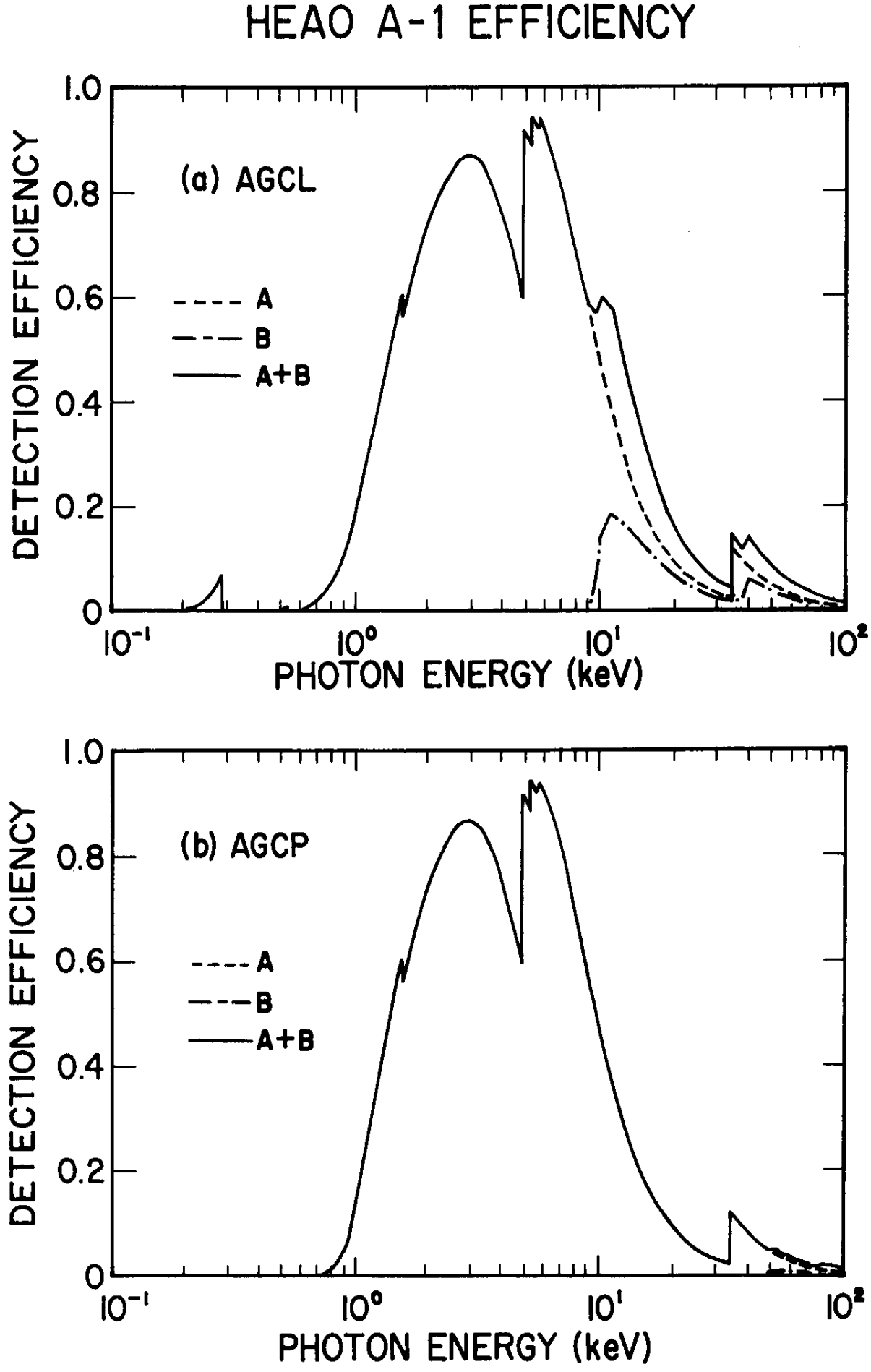

HEAO A-1 EFFICIENCY
(a) AGCL
A
B
A+B
DETECTION EFFICIENCY
PHOTON ENERGY (keV)
(b) AGCP
A
B
A+B
DETECTION EFFICIENCY
PHOTON ENERGY (keV)

Figure 7

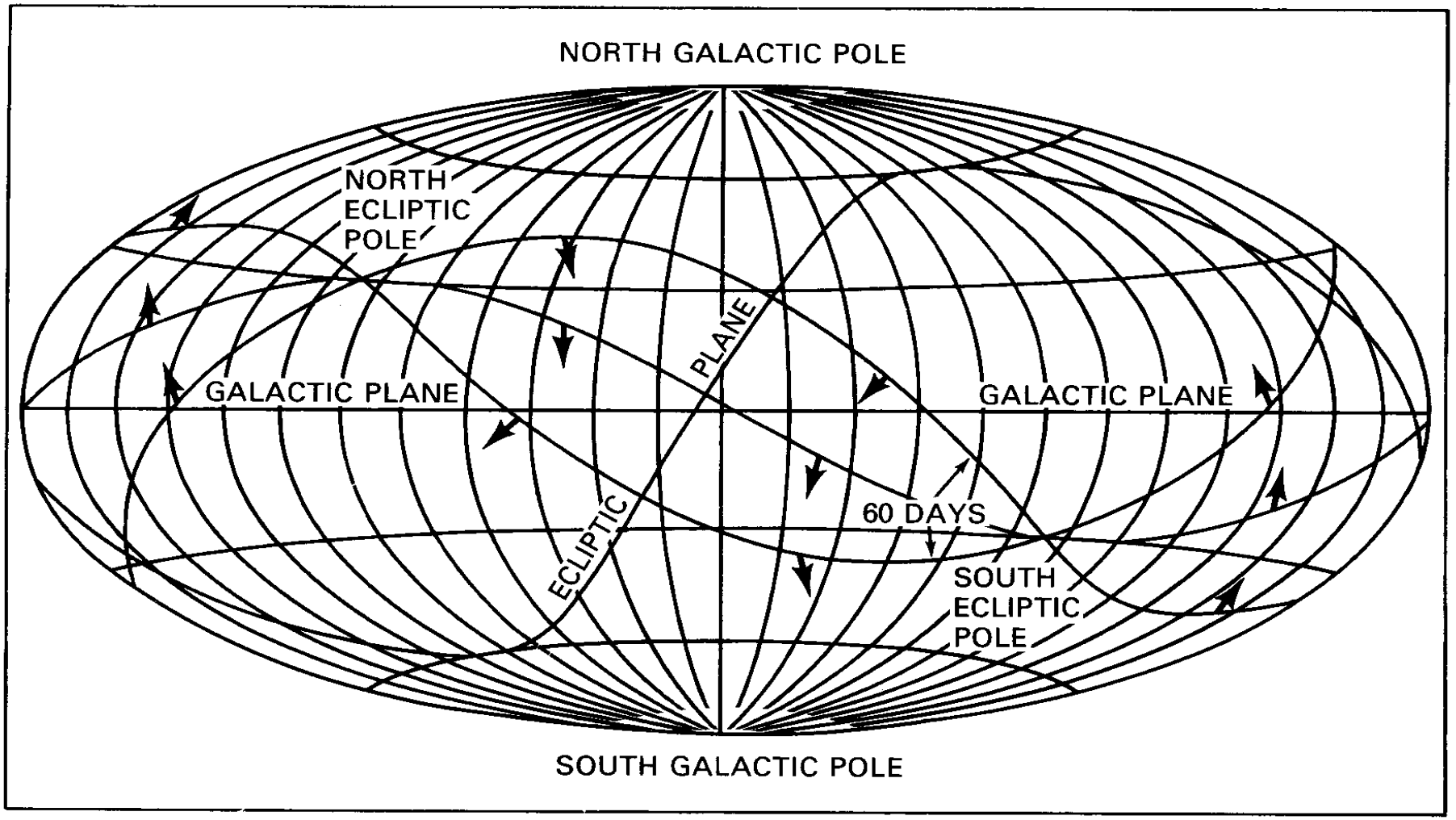

NORTH GALACTIC POLE
NORTH
ECLIPTIC
POLE
GALACTIC PLANE
PLANE
GALACTIC PLANE
ECLIPTIC
60 DAYS
SOUTH
ECLIPTIC
POLE
SOUTH GALACTIC POLE

Figure 8

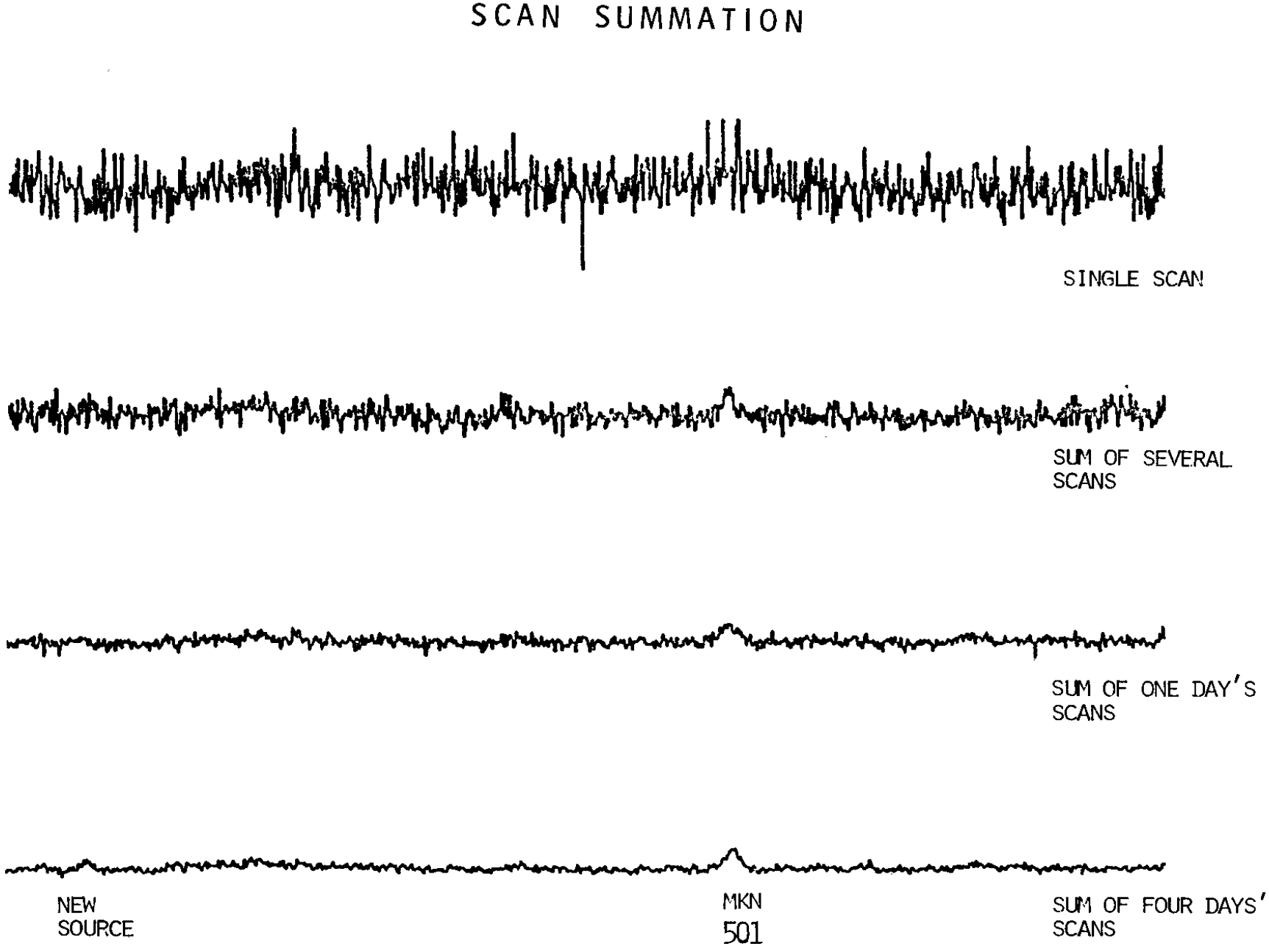

SCAN SUMMATION
SINGLE SCAN
SUM OF SEVERAL SCANS
SUM OF ONE DAY'S SCANS
SUM OF FOUR DAYS' SCANS
NEW SOURCE
MKN 501

Figure 9

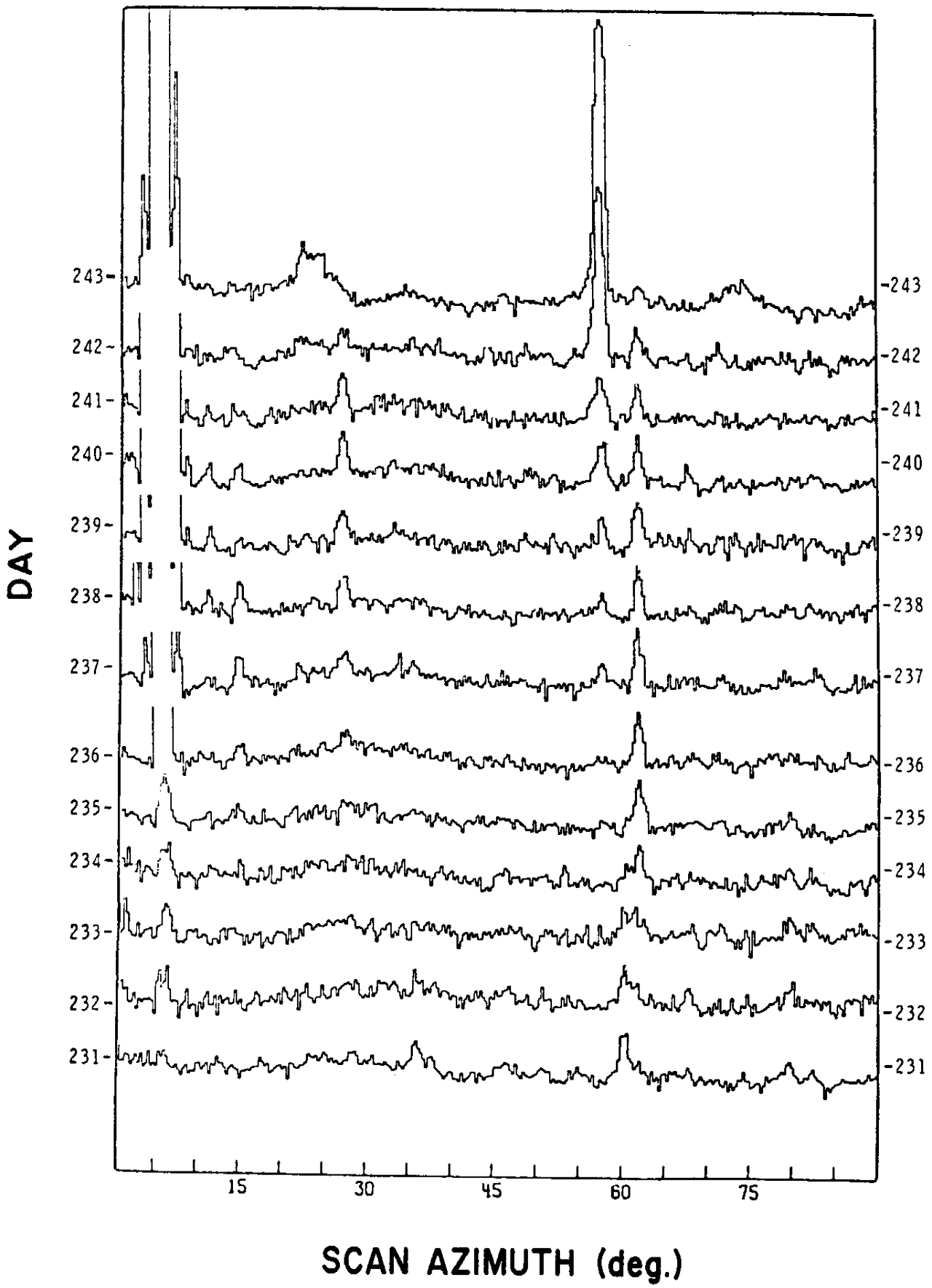

DAY
243
242
241
240
239
238
237
236
235
234
233
232
231
15
30
45
60
75
SCAN AZIMUTH (deg.)

Figure 10

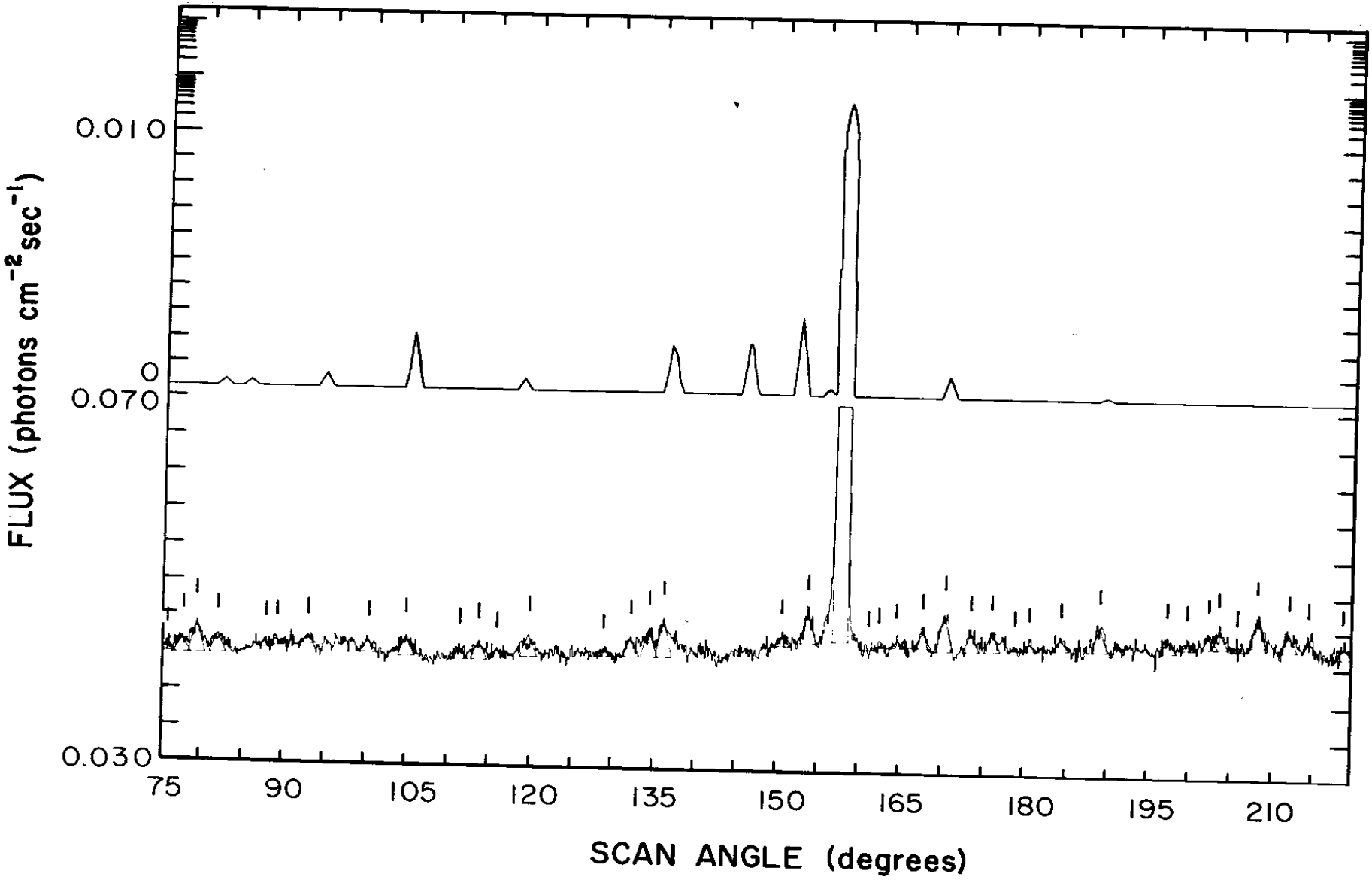
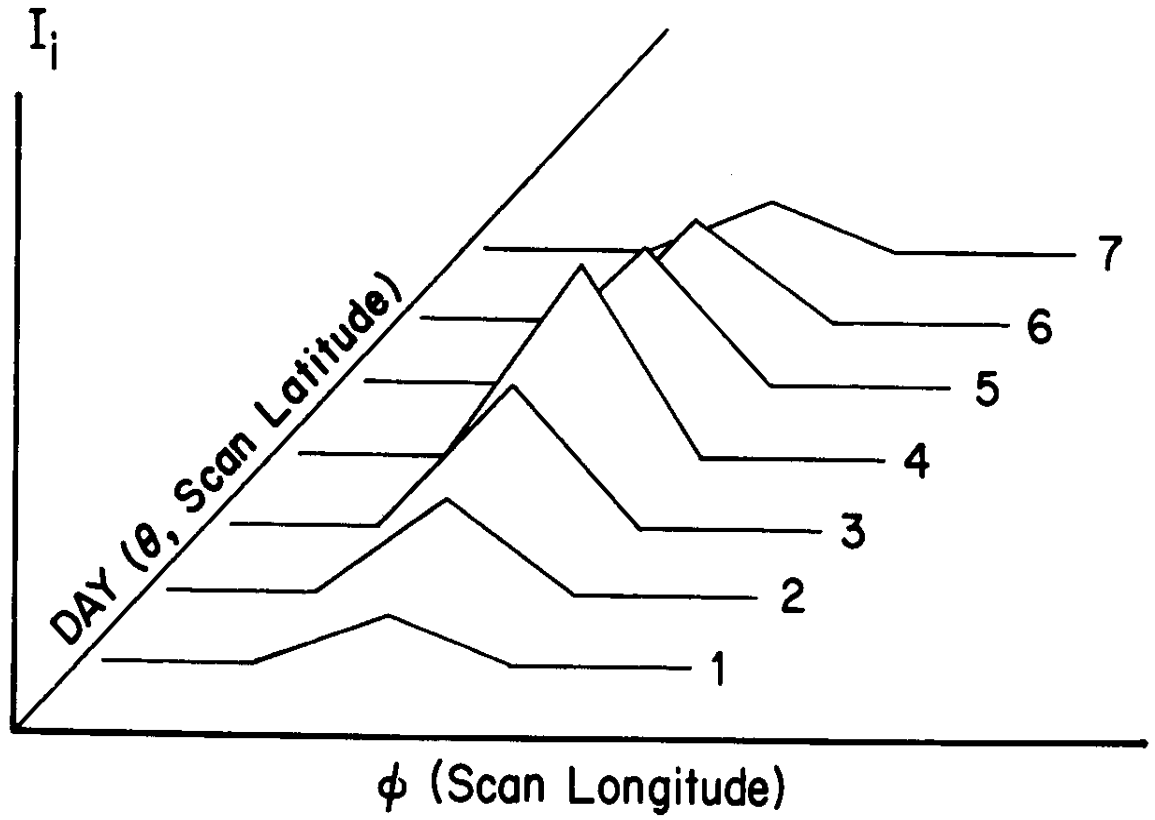

0.010
0
0.070
0.030
FLUX (photons cm^{-2}sec^{-1})
75
90
105
120
135
150
165
180
195
210
SCAN ANGLE (degrees)

Figure 11


I_i
DAY (θ, Scan Latitude)
7
6
5
4
3
2
1
ϕ (Scan Longitude)

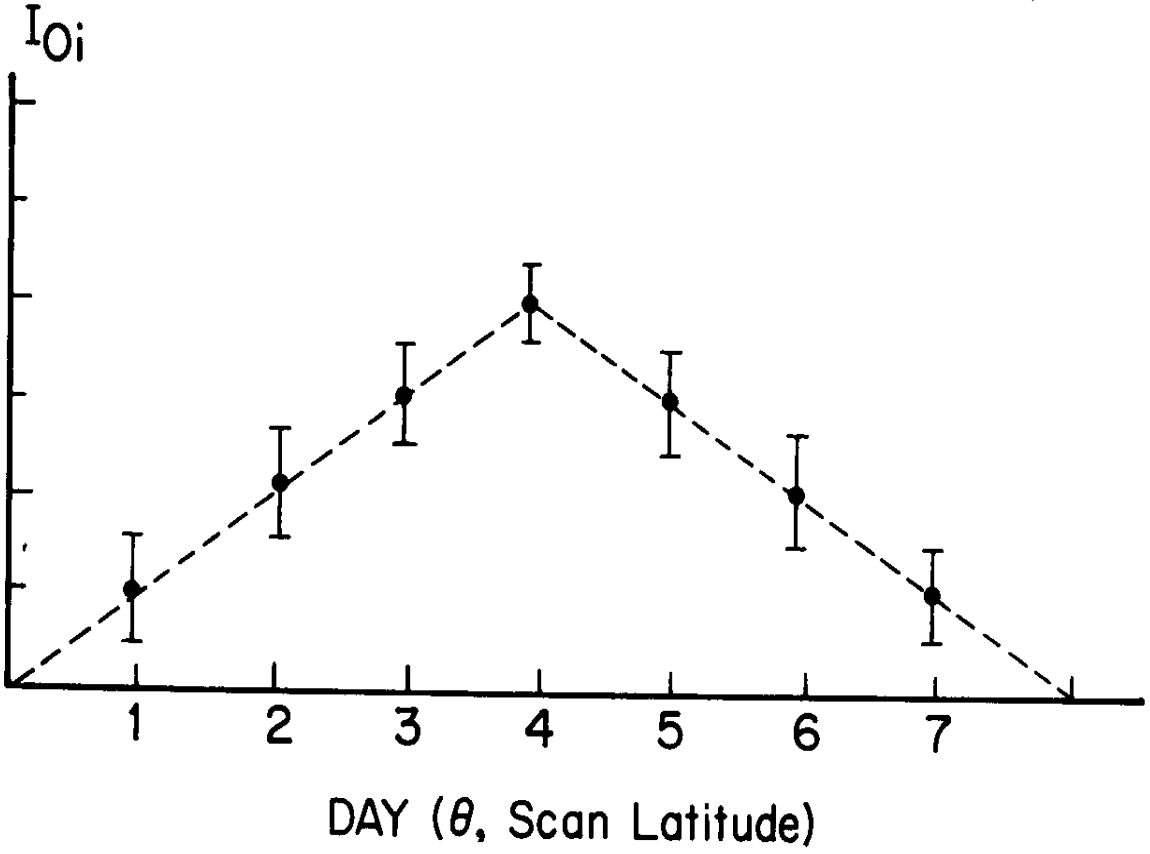

I_{Oi}
1
2
3
4
5
6
7
DAY (θ, Scan Latitude)

Figure 12

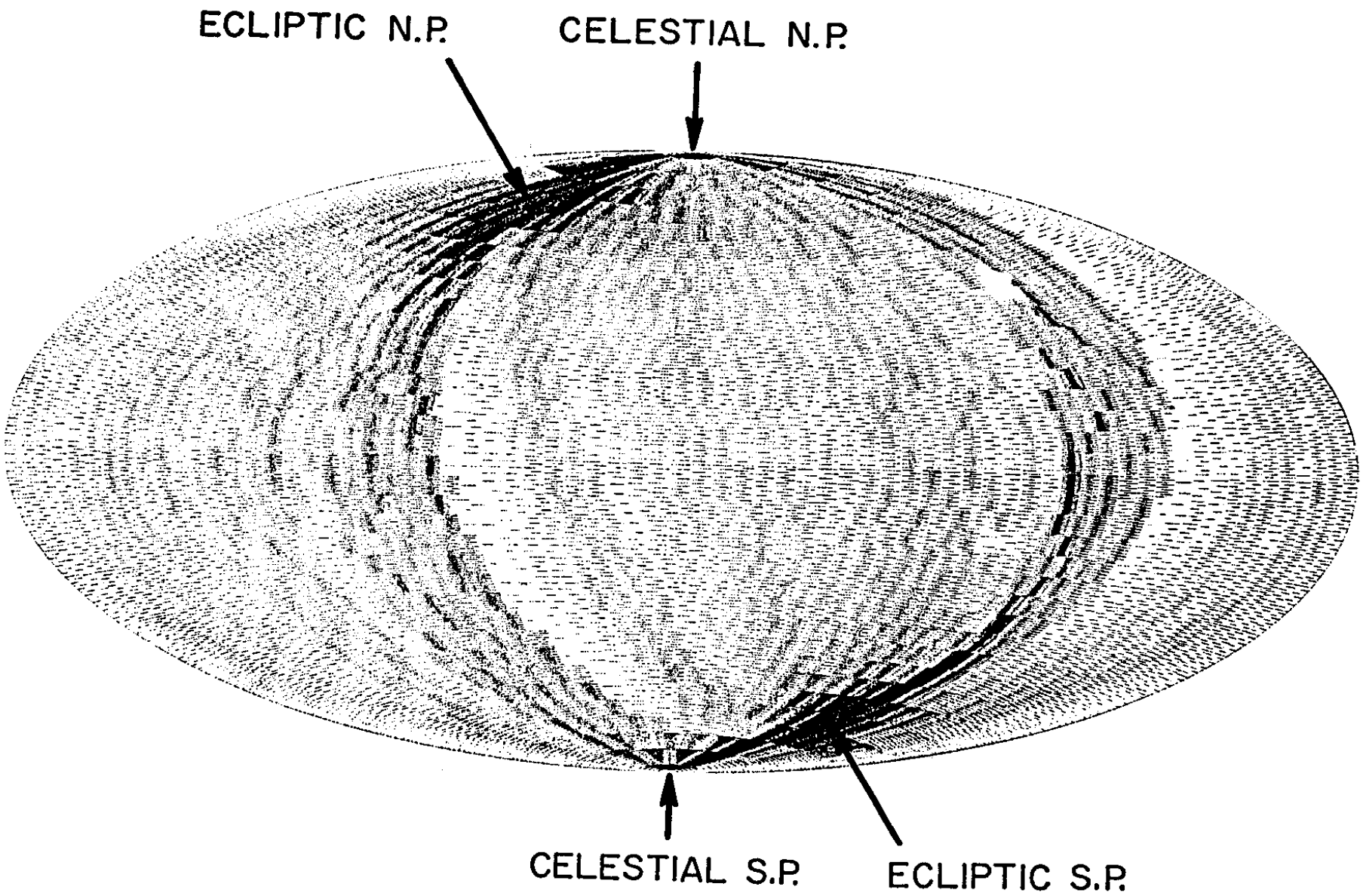


Figure 13

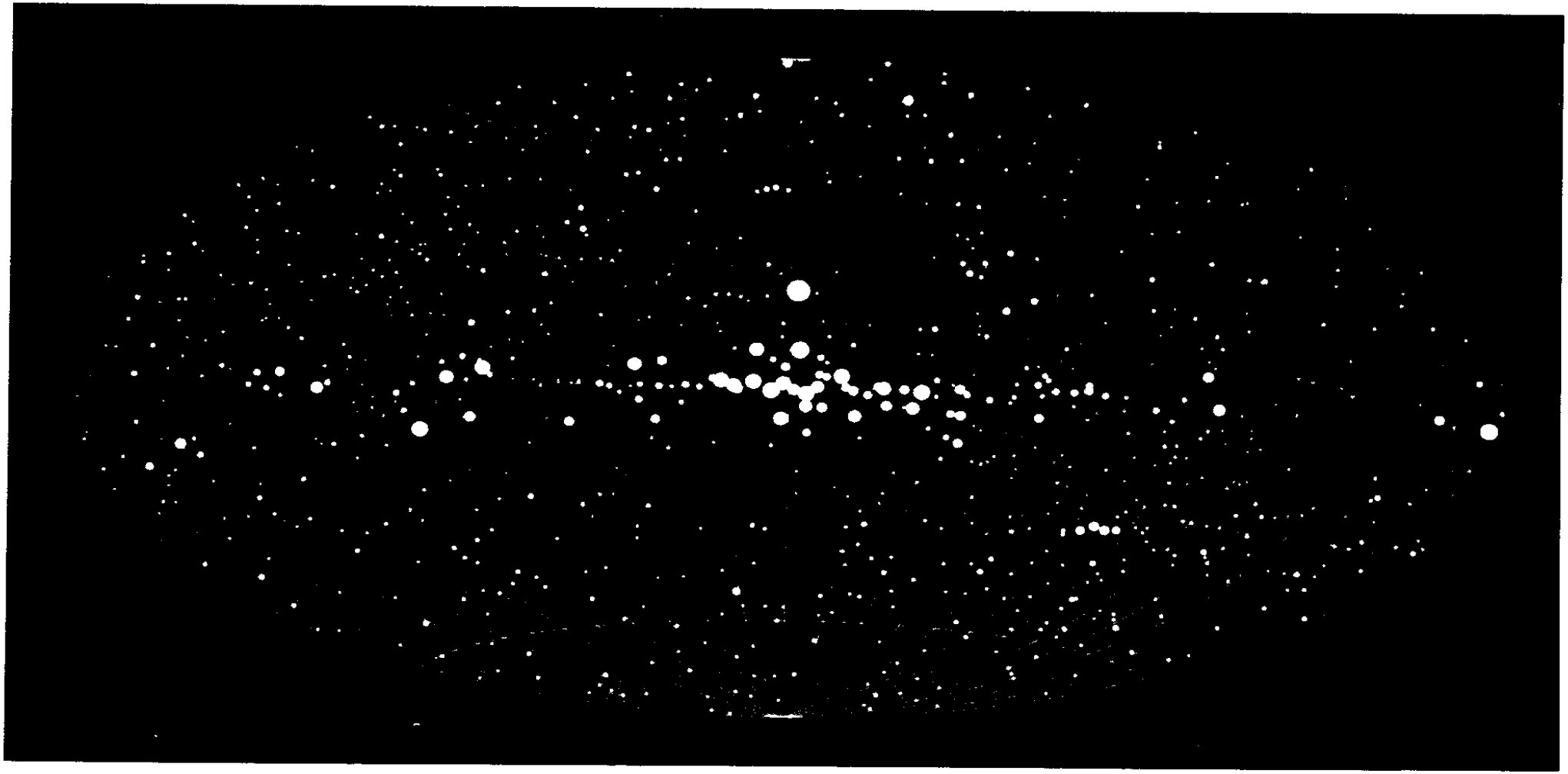


Figure 14

```
$ASS IN TBO
$NOP
$NOP
$NOP ********** LIST OF DOUT A **********
$EXE TPLIST BS

INPUT PARAMETERS ARE:  AS FL=2=2

 TAPE NO.   1              FILE NO.   1
 RECORD   1                LENGTH   2048
0140
                               0140
                                                         0140 ..CATALOG...
.......POSITION..................ERROR BOX..........................FLUX...IDENTIFICATION(S)...
..................       0140    ENTRY          RA          GAL        RA          RA       RA      RA
     AREA    ERROR                                                   0140                 DEC       E
CL       DEC       DEC       DEC       DEC
    0140
                                    0140 *************************************************
************************************************************************************   0141 1H000
3+200     .80    108.63    359.78    1.72    1.83   359.90  .520   .0028  4U 0005+20    X
RS00058+200 Mkn 335          0140               20.01    -41.31     19.71    20.55     20.3
1     19.47         .0006                                          0140           00 03 12
    8.97    23 59 07   00 06 51   00 07 19   23 59 35
         0143              20 00 43      17.98    19 42 31   20 32 45   20 18 33   19 28 23
                             (R)                 0140 **************************************
********************************************************************************************
 0145 1H0007+731       1.91     119.97     359.79     3.75      4.22     .24  .324   .0054  4U
0000+72   XRS00000+726 CTA 1              0140                  73.17    10.81     72.39
74.03     73.93     72.30          .0007                                         ^^^^^^^^^^^
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

 TAPE NO.   1              FILE NO.   1
 RECORD   2                LENGTH   2048
0140            00 07 37     53.40    23 59 10   00 15 00   00 15 52   00 00 57
                               0143                  73 10 11        60.96    72 23 08   74 01 39
  73 55 49   72 17 49                                    (R)                  0140 *********
********************************************************************************************
***********************   0152 1H0008-745         2.21      306.60       .11      3.25      4.14
  1.06   .479    .0049                       STR0000-751?                     0140
 -74.59     -42.53     -75.28     -73.76     -73.88     -75.42          .0010
                  0140                00 08 51       305.36    00 00 27   00 13 01   00 16 32   00 04 1
4                                                        0140                   -74 35 22     -62.6
9   -75 16 42 -73 45 27 -73 52 57 -75 24 58
     0140 *************************************************************************************
****************************************        0152 1H0010-515         2.62     317.15      1.20
  3.81      4.01      1.39   .424    .0036                           STR0012-515?
0140                 -51.53     -64.80     -52.02     -50.86     -51.03     -52.19          .0007 .
                               0140                   00 10 29     335.33    00 04 47   00 15 15
  00 16 03   00 05 34                                                             0143
-51 31 45     -46.85   -52 00 56 -50 51 20 -51 01 33 -52 11 25
     (R)                 0140 ***********************************************************
**********************************************************    0144 1H0011-239         2.90
 53.30      1.68      3.97      4.11      1.81  .640    .0049                     A14?
                  ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

 TAPE NO.   1              FILE NO.   1
 RECORD   366              LENGTH   2048
0140 1H2355-350     358.35     355.00     357.73     359.89     359.96     357.80  .236   .0072  4U 0
009-33                  2357-343          0140               -35.03     -76.25     -35.44    -34.51
     -34.61     -35.54          .0007                                              0140
 23 55 23     343.44    23 50 55   23 59 33   23 59 49   23 51 10
                    0140               -35 01 40      -31.34   -35 26 10 -34 30 19 -34 36 33
```

P-60070

```
28                                                          0140 *******************************
*****************************************************************************************
***     0140
                                                0140
                                                                                  0140
                                 0140
                                                                  0140
                  0140
                                                     0140 ..CATALOG..........POSITION............
.........ERROR BOX...........................FLUX...IDENTIFICATION(S).....................     013
2    ENTRY          RA          GAL          RA          RA          RA          RA      AREA     ERROR
                              0140                       DEC          ECL          DEC          DEC          DEC
   DEC
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

 TAPE NO.    1                FILE NO.    1
 RECORD    367                LENGTH    2048
0140
                                          0140 ****************************************************
*************************************************************************    0140 1H2357-126
  359.41        81.35        357.52        .95        1.19      357.85 2.079     .0030
     A2704                   0140                  -12.63      -70.96         -13.07     -11.64     -12.17     -13
.60             .0012                                                  0140                   23 57 38      354
.37    23 50 29  00 03 47   00 04 45   23 51 26
       0143                 -12 37 31       -11.33    -13 04 02 -11 38 13 -12 10 17 -13 36 17
                                 (R)                      0140 *******************************************
**************************************************************************        0140 1H
2358+484        359.68         114.47       358.35        .88         1.03       358.51   .368      .0033
                                      0140                          48.48        -13.29        48.00        49.10        48
.94         47.85                .0005                                           0140                23 58
43          23.95       23 53 25    00 03 31    00 04 07    23 54 02
                     0140                48 28 38         43.50       47 59 53    49 05 47    48 56 28    47 50 45
                                                        0140 ************************************
*************************************************************************************
00040004^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

***** JOB DONE.
$WEO LPS

$$
$REW LO
```